Training tomorrow's health care professionals with Axis.

Fanshawe College records human patient simulation scenarios with Axis cameras, microphones and AXIS Camera Station to prepare students for demanding careers.

Organization:
Fanshawe College

Location:
London, Ontario, Canada

Industry segment:
Education

Application:
Remote training and monitoring

Axis partner:
Durell Control Systems, Inc.

Mission

Fanshawe College in London, Ontario uses clinical simulation in order to provide realistic training scenarios for aspiring health care professionals. During simulation, students interact with actors or high-tech simulation manikins (mannequins) portraying patients with clinical issues and independently providing care. The sessions are recorded so students can reflect on and review their performance afterwards—ultimately improving their practice. The lab originally relied on a complex analog camera system that generated unreliable, poor quality audio. The college needed a simplified solution that could deliver high-definition video synched with a crystal clear soundtrack.

Solution

Systems integrator and Axis partner, Durell Control Systems, Inc., recommended an IP-based solution featuring HDTV-quality fixed dome Axis cameras, Axis omni-directional microphones and AXIS Camera Station video management system.

Durell outfitted each simulation room with four to six cameras and paired each camera with its own high-performance microphone. Lab technologists manage the system with AXIS Camera Station in a separate control room. Video of the simulation is archived on dedicated servers and can be retrieved to share with professors and students on request.

Result

The Axis camera solution provides high quality audio and video that gives valuable insight to students during their learning and development. Managing sound and video through the same AXIS Camera Station software eliminates the synching problems the college experienced with its old analog system. The simulation training videos are easy to download and incorporate in presentations or broadcast over the web for remote viewing by more students. Based on this success, the system is being expanded to all simulation rooms at the college.

AXIS COMMUNICATIONS

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"With AXIS Camera Station, all we have to do is turn on our computer, select whatever Axis camera we want to use, adjust the volume of the Axis microphone and we're good to go. When we do remote viewing, we can pull up whatever camera we want and stream it live to students in a different room. It's really quite easy."

Carol Butler, simulation lab coordinator, Fanshawe College.

Recording reality-based clinical simulations

Located in London, Ontario, Fanshawe College is dedicated to producing career-ready graduates in a wide range of professions. Students in its health science programs get practical, hands-on training to fully prepare them for the life-or-death situations they will face on the job. To create the most realistic scenarios, the students interact with actors or high-tech simulation manikins in simulation rooms where a clinical environment can be created. Professors and staff view the scenario from a control room out of sight from the students. The simulations are recorded so the students can review their performance afterward.

"This kind of learning is very interactive. It allows students to put all the things they've learned together and actually apply it to a patient care scenario," said Carol Butler, simulation lab coordinator, Fanshawe College.

Originally, the recordings were made with an ad hoc analog surveillance system featuring DVRs, joysticks and a large mixing board for the microphones. While the video was valuable, the audio quality was unreliable, and the college was not able to successfully sync both pieces together. The college began to investigate more tightly integrated solutions. The college's security team recommended the Axis network cameras they used for campus surveillance.

"Our Security Systems Specialist, James Robertson, came into our rooms and saw all the equipment we had on the tables. He was shocked by all the stuff we were using," Butler said. "He suggested that I come and look at what they had. He said, 'The videos that we pull off here are good enough quality that we can send them to court.' He sold me right there."

Simplifying operation with an integrated solution

The college hired systems integrator Durell Control Systems, Inc. to design and implement the system. Durell installed four to six AXIS P3364 Network Cameras in each simulation room, pairing each camera with its own AXIS T83 Series Microphone. In the control room, Durell replaced the DVRs, joysticks and mixing boards with an AXIS Camera Station VMS. The Axis software allows the lab technologists to manage all of the equipment through one portal directly from their desktops. The simplicity of the software makes it easy for camera operators to obtain the best quality footage.

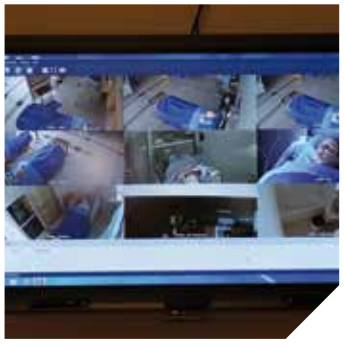
Improving training with clear audio and crisp video

The sessions are recorded and viewed in the control room, and the audio can be streamed to multiple headset stations so more than one person can listen at a time. After the simulations are complete, staff reviews the video with the students while the activity is still fresh in their minds. With the student's permission, a video can be exported for presentations or classes. The video can also be broadcast over the web for remote viewing in a separate room—an activity that had been hampered in the past by the poor audio quality of the system.

"With this new sound system, that is not an issue anymore. We can hear and see more clearly," Butler said.

With the increased clarity in both audio and video, faculty and staff can observe the scenarios as if they were right in the room with the students. The system has been so successful that the college will deploy it in all of their simulation rooms on campus, including a simulated operating room.

"This is all possible because it is an IP-based system," said Nazem Abou Chami, control engineer/VP for Durell Control Systems, Inc. "It's easy to scale up the system for future needs. You put a camera up, you get a data drop and the rest is done right at your computer."



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