

# Wired class lets everyone talk at once

## Mohawk software study intended to speed idea exchange

BY ROB FAULKNER

Would you raise your hand more often in class if no one knew it was you?

It's an idea being explored in a wired Mohawk College classroom where keyboards and monitors are tucked under a ring of glass-topped desks.

This week, about 30 upper-year students are here, working on real-world projects in software engineering. One project tracks used car tires, another health-care staff emergency preparedness. And many more.

"Try to come up with a trigger question," computer science professor Dennis Angle tells the class exploring marketing plans.

He wants them to find a question, focus the group discussion into one that'll help them tackle the marketing of their projects. He's unwilling to give it to them. He wants them to think.

Soon, you hear a faint clicking of keys, as teams brainstorm, adding possible questions in a list for each group. When each group has about 20 entries, they vote on the best. Angle hands them a printout with their questions prioritized.

They've found their direction.

The class is just one example of a system Rocco Di Giovanni has been working on at Mohawk for 15 years. Mohawk calls it a Management Decision Centre, part of its applied research and innovation department. The software is GroupSystems.

The concept? The system can encourage class participation because it's anonymous. Every one can "talk" at the same time. Class notes are automatically generated. And students actively guide the day's lesson.

"It's very difficult to explain. I wrote a 75-page (thesis) proposal to my committee, and my supervisor turned to me and said, 'Rocco this is great stuff, but what ... are you talking about?'" said Di Giovanni, who's doing a doctoral thesis that studies how college instructors use the decision-making system.

Admittedly, it's built on decision theory, and includes pioneers at IBM, the University of Arizona and users like the U.S. military. Di Giovanni has written 400 pages of his thesis, with two more chapters to go.

But this is what it looks like: 31 laptops with keyboards, three projection screens and a software program with millions of possible settings. It can collapse and travel, as a 16-station mobile decision-making lab.

If you look up GroupSystems' claims, the lab's design will conquer the fear of speaking up, the danger of groupthink, a lack of focus in meetings and prevent the loss of alternate ideas.

The makers claim corporate meetings eat up 80 per cent of managers' time, cost \$30-billion US in the United States, and they say surveys of managers find 40 per cent of meetings are unproductive.



SHERYL NADLER, THE HAMILTON SPECTATOR  
Mohawk students Saloni Lakhani, left, and Stephen Veerman test software that lets them be anonymous.

Di Giovanni, who is studying at the Ontario Institute for Studies in Education, says less attention has been paid to using these systems in classrooms.

"What usually happens is a segment of the population talks all of the time, while others with great ideas distance themselves," he says. "This way all ideas are input but you don't point out, 'Hey Johnny, what you said is wrong!'"

Di Giovanni credits as a pioneer Jay Nunamaker, who devised the first decision centre of this type in 1985, at the University of Arizona. Nunamaker's centre has more than \$41 million in grants to do cutting-edge

research for the military, universities, even the CIA. More than 1,500 decision centres use GroupSystems software.

"This is where teaching is going, I guarantee it," he says.

His set-up has been used by business and international studies professors, media managers, hospital staff and RCMP brass. He hosted former premier Mike Harris's government staff trying to redesign the health-care system.

"Fifteen years ago, we couldn't pay people to come and use this. It was in the basement of A-wing ... Granted, it was a DOS version," Di Giovanni says. "Now there's a buzz about it"

He just bought \$40,000 in equipment for a long-distance version of the lab: Pilot projects should start within several months, using webcams to take the system into students homes.

Or it may cut down on pricey, face-to-face meetings. Mohawk says the centre can save 50 to 90 per cent of the time taken by traditional meetings.

Unlike free-flowing webconferencing, it would let students focus class discussion by voting on what to pursue.

But Di Giovanni says a remote lab may stumble as it tackles things like integrating audio input using microphones.

It's not the only challenge. He

## Class ACTS

A regular series by Education Reporter Rob Faulkner that highlights exciting and innovative learning in Hamilton area schools.

admits not every teacher embraces a collaborative approach, where students type as he or she speaks, shaping class notes instead of hearing a lecture.

He says the technology is simple. But he has videotaped professors to show them their teaching approach resembles this: Ask one question, get one answer, ask another question ...

Other times, being anonymous can lead to flaming (hostile or insulting comments). Di Giovanni recalls one class generated 140 ideas in just eight minutes, but 120 were junk.

"In some classes, you get derogatory comments or junk like 'She's hot' or 'The girls in this class are hot' or 'The party's on,'" says Di Giovanni, an instructor of instructors.

"But students start to correct themselves."

He says flaming results if a lesson's objective is unclear. You can take away the anonymous function, he adds. And even the best technology still needs good teaching.

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# How experts track viruses and prepare for world epidemic

Science in the City forum tonight at Spectator

BY MEREDITH MACLEOD

So just how do you talk to anxious people about the world's next pandemic without scaring them to death?

It's a very delicate balance for scientists between trying to give the public accurate, scientific information about the avian flu and potential vaccines and causing even more public fear than is already out there.

"The idea is certainly not to scare anyone but I know that people are very afraid of this," said Jonathan Bramson, a professor of pathology and molecular medicine at McMaster.

But he doesn't mince his words. "If new types of flu carry high virulence, it can tear through a population because there is no previous immunity and everyone is susceptible."

Bramson will join anthropologist Hendrik Poinar and infectious disease specialist Mark Loeb in presenting a Science in the City lecture called From Pathogen to Pandemic: How Science is Responding to Infectious Threats. The presentation is tonight at The Hamilton Spectator.

The lecture is part of a series jointly sponsored by The Spectator and McMaster University.

The World Health Organization has warned that the next wave of killer flu could cause tens of millions of deaths and paralyse economies.

Bramson says traditional vaccines don't work with the bird flu - H5N1. The strain of influenza A virus has already claimed more than 60 lives in Asia and led to the slaughter of more than 150-million birds.

Vaccines are normally incubated in cells in test tubes.

The virus is allowed to multiply until it's harvested out of cells. The virulence of the strain is gone but the markers are left behind that convince the immune system to jump into action.

Bramson says the problem with the bird flu is that it kills cells so fast that scientists can't get the vaccine to multiply quickly enough.

Bramson says in some ways, the world would be lucky if the next pandemic is the H5N1 avian flu.

Researchers know what it's about and have had time to work on it.

The real danger is if something else comes from right field that no one is expecting, he says.

"We don't have a lot of time before we're facing real danger. We may be better off with the devil we know."

"The only thing that is clear is that we are overdue for a pandemic."

The last pandemic hit 37 years ago

and they are known to strike every 11 to 44 years.

What will elevate bird flu to a pandemic is if the virus mutates so that it can be passed easily from human to human while maintaining at least some of its virulence. Currently, it's believed to have a mortality rate of 70 per cent.

To contrast, the Spanish Flu in 1918 had a mortality rate under 5 per cent, but it was highly infectious. It spread across the planet and claimed between 20-million and 50-million lives.

If new types of flu carry high virulence, it can tear through a population because there is no previous immunity and everyone is susceptible.

JONATHAN BRAMSON

Scientists have concluded that pandemic began as an avian flu that eventually changed into something that could be passed among humans.

The same thing could happen now, especially in countries where humans live in close proximity to birds, says Bramson.

"If there are 10,000 viruses in one chicken and one-million chickens in close proximity to humans, that's lots of opportunities to make the jump."

Loeb will talk about vaccine strategies and how we can overcome shortages of vaccines doses during crises.

"We don't want to incite any panic but we want to present the facts," said Loeb.

Poinar is a molecular evolutionary geneticist who directs a highly specialized ancient DNA lab at McMaster. He will talk about how looking at the evolution of virus genomes helps determine what strain the pathogen is, where it derives from and whether it has drug resistant mutations.

Poinar says understanding a virus's evolutionary trajectory can lead researchers to design "smart" vaccines.

Seats should be reserved by e-mailing sciencecity@mcmaster.ca or by calling 905-525-9140 ext. 24934. Doors open at The Spectator's auditorium on Frid Street at 6:30 p.m. for the 7 p.m. presentation.

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