

rogers facilities UPGRADED

The annual fall report of facility improvements in the Rogers Communications Centre reflects a rapidly evolving societal change as Ryerson starts its first academic year of the new millennium. "We're doing our best to keep pace in an era of rapid technological change," says Brad Fortner, Operations Manager. "I remain convinced that our organizational diligence has been key in keeping the facility state-of-the-art and, in many areas of technology, we fall into the 'leading edge' category."

"All of our efforts are important so that Ryerson can maintain and grow its applied communication programs. We have to keep in mind that students entering our undergraduate programs today will graduate into the working world four years from now. It's important that Ryerson, through its investment in the Rogers Communications Centre, provide a realistic environment that helps reflect what that environment will be like technologically."

Since its opening in 1992, the Rogers Communications Centre has serviced a variety of Ryerson's schools on a day-to-day basis. The Centre supplies the facilities for television, new media, audio and post-production. This year the Centre will be a big player in facilitating the

requirements of the new Graduate Program in Culture and Communications. As well, the Centre continues to be a hub for Applied Research in the area of communication technologies and content.

VIDEO EDITING

For the past five years the Centre's main area of specialty and the top academic priority has been in the modernization of its video editing technology. Strategic partnerships with Intergraph Computers, Digital Processing Systems (DPS) and Panasonic Canada have resulted in one of Canada's largest all digital real-time non-linear editing environments. "While the schools have continued to grow their pools of Panasonic's digital DVCPRO cameras, improvements in both the quantity and quality of our non-linear edit suites are notable for this year," says Fortner. "Come September there will be fourteen DPS non-linear editing systems in the pool. That's five more than we had last year. It effectively replaces the S-VHS analogue edit suites across the board."

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Brad Fortner, Rogers Communications Centre and Mark Burton of DPS

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However, users will be able to continue to use materials generated by the S-VHS camcorders as each non-linear suite allows for the transfer of S-VHS materials. S-VHS will be withdrawn as a supported production format in August of 2001 allowing one more budget cycle to replace the various schools existing cameras. Journalism will make use of the non-linear editing pool in its day classes for the first time this year.

“Perhaps the most exciting news is that all the non-linear suites, including the existing nine suites, will be updated to include the latest non-linear board sets from DPS,” says Fortner. “These new board sets, known as Velocity, will include software that will allow students to edit their material and then output it for broadcast, DVD or streaming environments. These new capabilities will have relevance to all our academic partners. Streaming media will be important to Journalism’s new online news program as well as the New Media and the Radio and Television Arts program. DVD has gained consumer acceptance. The motion picture program in particular may find that the ability to output completed pieces to DVD (over videotape) will be desirable as a means of distribution once a piece has completed the editing process.”

Another important area associated with the post-production environment is compositing. “This will be the year that compositing training will move into the mainstream of both the Motion Picture and the Radio and Television Arts Program.” Fortner adds, “the Motion Picture program will be including it in its 26 week special effects course, while RTA will integrate training into its third year television program.” To handle the increased teaching load and to take advantage of the required computing horsepower, the Digital Fusion software has been moved to the Visual Computing Lab.

Compositing is an essential component in the area of special effects and a core process involved in modern filmmaking. The Rogers Centre has a strategic partnership with Eyeon software and use of its Digital Fusion software.

Digital Fusion can work with standard television resolutions as well as resolutions that match feature films and high definition television. “Last years Perfecte high definition production took advantage of that software to composite bluescreen effects.” Fortner notes.

ONGOING EXPERIMENTATION IN THE DEMONSTRATION LAB

Ongoing experimentation continues with various new post-production tools in the Rogers Communications Centre Demonstration Lab. An advanced version of Digital Fusion (Digital Fusion Post) is available on the SGI Windows NT systems in there. As well, a computer has been equipped with a version of Adobe Premier that operates in real time. Premier is a popular video-editing tool that has emerged from the multimedia environment. The room also contains an SGI (Silicon Graphics) O2 and a fully developed Macintosh dual processor G4 platform that includes Final Cut Pro, Adobe After FX, Premier and PhotoShop.

“The G4 platform is of particular note,” says Fortner. “Last year the Demonstration Lab tested a G3 using Final Cut Pro and found the platform to have merit as a low cost render based video editing platform. Our findings supported the research efforts of Image Arts Chair Brian Damude, whose sabbatical included research on how G4s could be implemented in the modernization of Ryerson’s Motion Picture program. The G3 will be loaned to Image Arts for one year as they research rollout implementation issues with this technology.”

“We want to offer whatever support we can to the Motion Picture program should they decide to make this important transition,” says Fortner. “The Motion Picture faculty made use of the G3 last year as part of their discovery process. And due to changes in its curriculum, RTA is also interested in increasing its editing component. The G4 platform may prove useful for this as well.”

“The research conducted on DVD in the Demolab is also starting to pay dividends,” Fortner adds. “In a partnership that includes Pinnacle Systems, Pioneer Canada and Acura Technology a complete authoring and DVD burning environment is available. We’ve found DVD useful for rapidly developing high quality interactive prototypes as well as informational DVDs. The Demonstration Lab is open to faculty and their research assistants. It can be accessed through the Digital Media Projects Office,” he says.



learning, virtually

Almost 50 years to the day that Ryerson hosted Canada's first television studio broadcast, details were finalized with Hitachi Denshi Canada to equip Television Studio C with cameras that are both digital and 16X9 capable. The installation included securing 16X9 monitors also supplied by Hitachi. These new capabilities will help the Rogers Centre address today's realities such as the transition to the HDTV 16X9 environment as well as all things that are happening on the digital end of television studio production. In an era where it seems like everything is "going digital" television is no exception and with digital television comes new production equipment and techniques.

STUDIO C IS BEING MADE INTO A FULLY DIGITAL TELEVISION PRODUCTION FACILITY, WHICH COMES WITH SIGNIFICANT IMPROVEMENTS IN QUALITY

Studio C is one of the Rogers Centre's four television studios and is the first to be upgraded from a traditional analogue environment to a digital television studio. Ryerson is Canada's largest educator in studio production and the installation puts the studio on the "cutting edge." The studio is shared by several University programs including Theatre, Early Childhood Education, Image Arts, RTA, Continuing Education and the Graduate Program in Culture and Communications.

"The way modern television studios are set up, everything requires an overhaul," commented Terry Harvey, Manager of Broadcast Systems Engineering. "Studio C is being made into a fully digital television production facility, which comes with significant improvements in quality." The new camera equipment will work in the 16X9 aspect ratio, known to most people as "wide-screen." Digital TV sets in the future will all be in this wide-screen format similar to the shape of a movie theatre screen. "By shooting with 16X9, it means the relearning of a lot of techniques," he added. "What it also means though, is a larger screen and better pictures."

The new cameras provide the foundation to explore another area of new technology known as Virtual Sets. "Because of computer technology there is now a means to

create lifelike sets in 2D or 3D. This allows a performer to be in exotic surroundings without spending a lot of money," said Harvey. "Hamilton's OnTV station uses this technology to create the sets for the newscasts it originates."

Traditional blue-screen technology creates an artificial background behind someone. Also called chroma-key, this has been the process used for most weather maps on TV news shows. It is the same technique that made Superman fly in the movies. "However, this is a step beyond that," adds Harvey. "With virtual sets, people are able to move around and behind pieces of the set." Virtual sets use computers to create settings which are superimposed on to a blank set. It also makes use of new camera tracking technology that communicates between the camera and the computer."

Beyond the news application, Virtual sets are now being used on TV game shows. The advantages over real (hard) sets are numerous. To begin with, virtual sets are less expensive. Once the technology is purchased, creating new sets costs very little. One virtual set can be transformed in seconds to something else by the touch of a few buttons. There is no time lost changing sets, and no space lost storing sets not in use. Sharing a studio becomes simple and inexpensive.

The digital camera technology and 16X9 monitoring equipment that opened the door to all of these possibilities would not have been possible without the corporate support of Hitachi. "This yet again demonstrates what amounts to a long term commitment by Hitachi Denshi to assist Ryerson Polytechnic University with its needs for television studio cameras," commented Michael Murphy, Academic Director, Rogers Communications Centre. "This is the second television studio Hitachi Canada has helped the Rogers Centre to equip after having assisted us with RTA's television Studio B three years earlier. There is a real commitment to education from Hitachi along with an understanding of the realities inherent with this kind of training in the educational field."

"Now that the cameras are in place, the transition of Studio C to the complete virtual/blue screen environment will occur in stages over the next few years," comments Brad Fortner, Operations Manager. "By year's end a digital switcher will be installed and at that point we can better address the blue screen environment from a digital perspective. For Image Arts and RTA they would have liked to have had the environment yesterday," Fortner smiles. •

The

EDITING

REVOLUTION



Apple's G4 makes video editing affordable and easy.

The lives of students working with film is about to become a whole lot easier. For years, students in Film, New Media and RTA have been struggling to secure video editing time in both Ryerson and the Rogers Communications Centre's facilities. Editing was a very time-involved process, and with thousands of students vying for the same 14 editing suites, it's no wonder many students sought facilities outside of the Ryerson campus.

In the search for a solution the Rogers Communications Centre assisted Brian Damude, Chair of Image Arts, with the research he conducted while on sabbatical. His research included a look at how lower cost integrated computers, combined with consumer based digital video equipment, could be utilized by the Motion Picture component of the Image Arts program. "It's clear that 14 (editing) units is not enough," says Brian Damude, Chair of Image Arts. Damude has spent the past year on a work-in-progress so remarkable that it may change the way film students work with and store projects from now on.

Part of the challenge for Damude was to provide something that would augment high quality editing technology currently available at the RCC at a fraction of the cost. The DPS non-linear systems are ideal for the later years of the Image Arts program but are overkill in the early stages of the Image Arts curriculum. "We don't want to back away from having a high level of editing," he says.

Even with what's in place, Damude still needs editing suites for hundreds of students who are working on projects. And, as with any computer system, storage is always a problem. "Early on I started thinking about not having conventional storage," says Damude. The answer he was looking for was given to Damude prior to his sabbatical. "Apple lent me a G4 computer which came with the software called FinalCut Pro, an extremely sophisticated piece of software used by professionals," he

FIREWIRE TECHNOLOGY MAKES REMOVING AND INSTALLING HARDDRIVES ABOUT AS EASY AS INSERTING AND REMOVING A FLOPPY DISK

says. Not only is the G4 a "hardy" computer, which will have some longevity, but it is inexpensive enough that Ryerson could afford to buy several of them.

Further research into the G4 led to a revolutionary discovery and a highly plausible solution. "With the G4 you can actually swap hard drives with Apple's firewire technology," he says. This technology makes removing and installing hard drives about as easy as inserting and removing a floppy disk. "Over the year that I've been working on this, Apple has developed even smaller portable hard drives to work with their G4's," adds Damude. The G4 hard drives are about the size of a palm pilot, are lightweight, and can hold anywhere from 8 to 23 gigabytes of data. "So my thinking was if these hard drives are inexpensive enough, and hold enough data, then possibly students can start owning their own hard drives, and just pop them in when they come in for a session."

The result of Damude's research is a low-cost, yet powerful computer and software combo, plus ample storage for each student. "So far it's worked fairly well," he says. "The hard drives are only getting faster and smaller, and can only come down in price," adds Damude. This year he plans on using a group of students as a test group for the technology. If results are favourable, then portable hard drives could be as common as floppy disks. "I think it's a very exciting idea," says Damude.

The Rogers Communications Centre has assisted Brian with his work while on sabbatical. It provided technical expertise, links to partners and some production space during his time away from his role as Image Arts chair. •



4

SHORTS



■ ■ ■ DMI

Ryerson announced that it would be part of the Digital Media Institute along with the University of Toronto, Sheridan College and the Canadian Film Centre. The group's objectives are to increase the usefulness of digital media, increase the production of Canadian digital media content, increase the availability of Canadian digital content, and to create job opportunities for Canadians in the field of digital media. It will be a catalyst in education and training, as well as a source for entrepreneurial ventures. Most recently the DMI concluded a series of lectures that covered various aspects of digital media presented by some of Toronto's top professionals and experts. The series of 10 lectures was successfully received at the University of Toronto and was also available via streaming media on their website www.rcc.ryerson.ca/dmi.

Currently, the group is working on improving the website to allow for more functionality and to allow for easier access of information. The group is under the direction of Paul Hoffert, director of the CulTech Research Centre and Kathryn Saunders, newly appointed as DMI's Executive Director. •

■ ■ ■ WEBSITE RENEWAL

The Rogers Communications Centre's website received a major facelift recently, changing the design and much of the content. Image Arts student Radek Pacanowski was responsible for the new look and programming, while journalism students Brian Chick, Mike Oliveira, and Erica Basnicki worked with the subject matter. Most of the content was several years old, and the look left room for improvement by today's standards. The site is available at www.rcc.ryerson.ca •

ONTarget

Through various partnerships, the Rogers Communications Centre is involved in another project designed to further develop Canada's new media sector: ONTarget a human resources development initiative in Ontario.

ONTarget is a result of separate proposals to the Ministry of Education made by Interactive Multimedia Arts and Technology (IMAT), SMART Toronto, the Toronto New Media Trainers Alliance (NMT a partnership between Centennial College, First Interactive, International Academy of Design, Ryerson Polytechnic University, Seneca College and Sheridan College) and the Multimediator Strategy Group.

Having found complementary aspects of each proposal, the Ministry's jury recommended a partnership between the four groups, and ONTarget was born.

The purpose of this organization is to increase the number of people working in the field of new media in Ontario, and to increase the skills associated with each area of new media. Program Director Mark Jones hopes to provide communication resources for high school students and continue this support throughout their post-secondary education until students are ready for a career placement. Support will be provided for the students' teachers as well.

"Most students are hitting their last year of high school and have to decide on a University and program within 2 months. We want to be able to say 'Here are your options. You don't have to go to Hollywood and work for (George) Lucas'"

Jones is referring to the increasing "opportunity drain" suffered in Ontario, where many highly trained new media professionals are seeking their fortune on big projects, south of the border. "Our main objective concerns keeping people in Ontario," says Jones. "We want to make it easier for them to find work here."

ONTarget will begin its initial roll-out in October, starting with a website job placement tool, as well as a site for the program as a whole. For more information about ONTarget, please contact Mark Jones at (416) 926-8908. •

D V D

m o v e s

D i n t o r y e r s o n ' s

mainstream

Digital Versatile Disc or DVD has now become a major consumer commodity threatening to force video tape players off the shelf in about two years time. With plenty of software readily available, the DVD player has entered the mainstream and is quickly becoming a fixture in many people's homes. Similar in both appearance and size to an audio compact disc, the added storage capacity of the DVD format offers consumers high quality imagery, surround sound and interactivity. Thanks to recent corporate donations, the Digital Media Projects Office and the Rogers Communications Centre have taken steps to ensure Ryerson's relevance in the area of DVD content authoring.

Currently, the Rogers Communications Centre owns two DVD authoring stations. These systems allow for the production of small "corporate quality" projects. These systems are excellent for producing high quality interactive DVDs that combine broadcast quality video, text and high quality graphics. Part of the development is to learn how to produce "hybrid" DVDs for educational purposes.

A hybrid DVD is one with increased interactivity through access to online content. Ike Morgulis, an Associate of the Rogers Communications Centre, hopes to use this technology to facilitate distance and in-class learning. "We want to be able to integrate online streaming media into the DVD." He says.

"When you pop 'The Matrix' into your DVD player, you can access their website. That's not all you can access; there are "hidden" sections in the DVD on the special effects tricks used to make the film.

Ultimately this integration means better audio and visual quality for such applications as online lectures and presentations. Currently, online learning material on CD-ROMs is presented using either Real Media, Windows Media Player or QuickTime. "The audio quality of those mediums is okay. The video is passable, but you often don't get a full screen picture," says Morgulis.

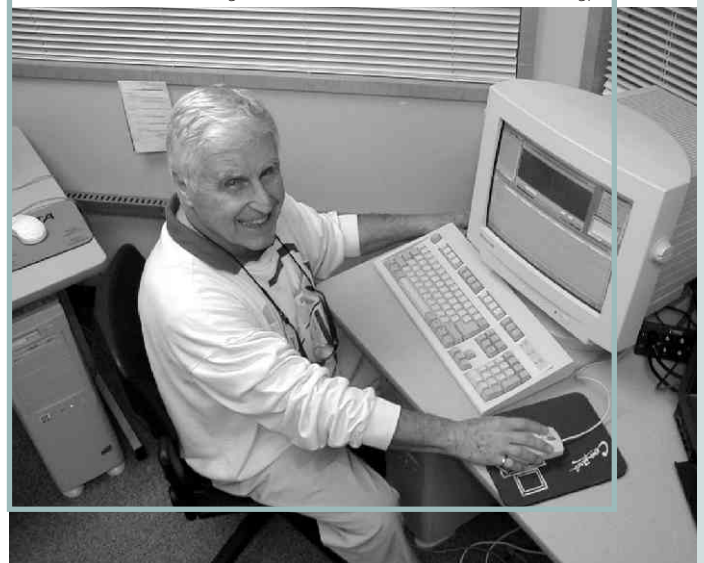
The development has been undertaken by Ike Morgulis, in conjunction with Jeremy Littler of the Digital Media Projects Office and Salim Haniff and Dave Han who are students in Computer Science and Radio and Television Arts respectively. There is no interest for this group to pursue "Hollywood" style DVD productions. Rather they're "more interested in integrating video with pedagogical information," says Morgulis.

Beyond further developing this new hybrid DVD technology for education, the Rogers Communications Centre has already completed several DVD projects. They include "LINES" - a parallel perspective story, and a promotional series that outlines Ryerson's research thrusts that was used on a recent trip to Singapore and Hong Kong.

This academic year will see DVD authoring capabilities move into the Applied Arts non-linear editing environment located in the Rogers Communications Centre. All fourteen non-linear suites will be updated so that they are "DVD ready." This will be of special interest to students enrolled in the Motion Picture program as their finished work will have the ability to be "burned" onto a DVD disc that will allow for a very high quality playback of both sound and image using a common consumer device. VHS, which has been the mainstay format for many years, does not have the image quality, interactivity or the ability to playback Dolby digital surround sound that DVD does.

For faculty interested in learning more and accessing the DVD authoring environment for research and content development, contact Wendy Freeman in the Digital Media Projects Office. •

Ike Morgulis demonstrates new DVD technology

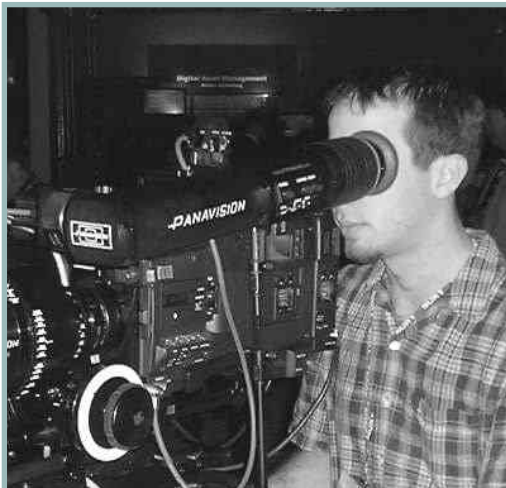


What was supposed to be a 300-hour practicum project for 5 Radio and television Arts students turned into a groundbreaking and highly successful high definition television production. Martin Gero and Ryan Hays, now graduates of Ryerson's Radio and Television Arts program are two production members of the recently completed dramatic HDTV project "Perfecte." "We had a hunch that it was going to turn out," jokes Gero, "but what has happened has truly surpassed our expectations."

Gero may be joking, but considering the success of Perfecte to date, he and the other members of the team have much to talk about. Perfecte is the first dramatic HDTV pilot produced as a practicum project when they were in the last year of the RTA program. Being trailblazers, Gero and Hays had to find their own solutions to problems that would arise.

Since Ryerson lacked the infrastructure to conduct such an undertaking Gero and Hays had to arrange partnerships both inside and outside the University in order to produce the project. "It was literally two days before we had to do our final HD edit, and we had no where to do it." Says Gero. "We were petrified, but at the last possible moment one of three places we'd been begging to give us an on-line came through."

Gero and Hays were fortunately blessed with a string of good luck and enjoyed the backing of the Rogers Communications Centre. "The RCC was the banner under which we presented ourselves," says Hays. "They



Martin Gero at the National Association of Broadcasters Conference

THERE'S BEEN A LOT OF INTEREST AND WE'RE CONFIDENT

THAT PERFECTE CAN BE MADE INTO A SUCCESSFUL TELEVISION SERIES

helped us more than they needed to, and their reputation for quality just made it that much easier for us to get corporate co-operation and offers of assistance."

In order to complete the production, Gero and Hays extended Ryerson's base knowledge in this medium to include several technological advances and developments. To shoot the production they worked directly with SONY of Canada and made arrangements to shoot using SONY's HDCam format. In the end, several post-production systems were developed, including an HDTV compositing system. The bulk of the content was edited on HDCam videotape using Eyes Post's in house HDCam editing system. For the compositing, they cooperated with Eyeon Software and Boxx technologies, employing Digital Fusion HD (High Definition) compositing in the postproduction process. Digital Fusion is the main compositing software employed at Ryerson in RTA and Image Arts.

In addition to the video content, the audio was produced and mixed in Dolby 5.1 surround sound using the studio located in the Rogers Communications Centre. Perfecte was premiered in the Rogers Communications Centre's Eaton Theatre last April. For the opening night Perfecte was able to arrange a SONY high definition projector and the accompanying surround sound system to be installed in the theatre specifically for the show.

Gero is a firm believer that HDTV can be used successfully for dramatic productions. "Right now is just the beginning of what will eventually be very popular format," he says. Since leaving Ryerson, Perfecte has been exhibited at the National Association of Broadcasters conference in Las Vegas earlier and has been highlighted at the prestigious Banff International Television Festival in June. And there's more good news. Perfecte has attracted the attention of television broadcasters, as well as industry conferences. "We've entered into a development deal with a Canadian broadcaster that will be announced later this year." Says Gero with a smile on his face.

The Perfecte team are grateful for the support offered by Sony of Canada, eyeon Software, Boxx Technologies, Intergraph Computers, Eyes Post, PS Production Services and the Rogers Communications Centre. •

streaming media development

@ RYERSON gains global audience & acclaim

What began a few years ago as a small number of experiments led by Jay Moonah, then an employee in Ryerson's Digital Media Projects Office (DMP), has led to serious development in streaming video media for use at Ryerson. Streaming media is gaining popularity on the Internet thanks to its ease of use and its quick delivery. For the user it works much like a television broadcast. But instead of waiting for a media file (such as audio or video) to completely download, the file is "broadcast" to your computer in real time, allowing you to watch or listen to the file in real time as it becomes available on your computer.

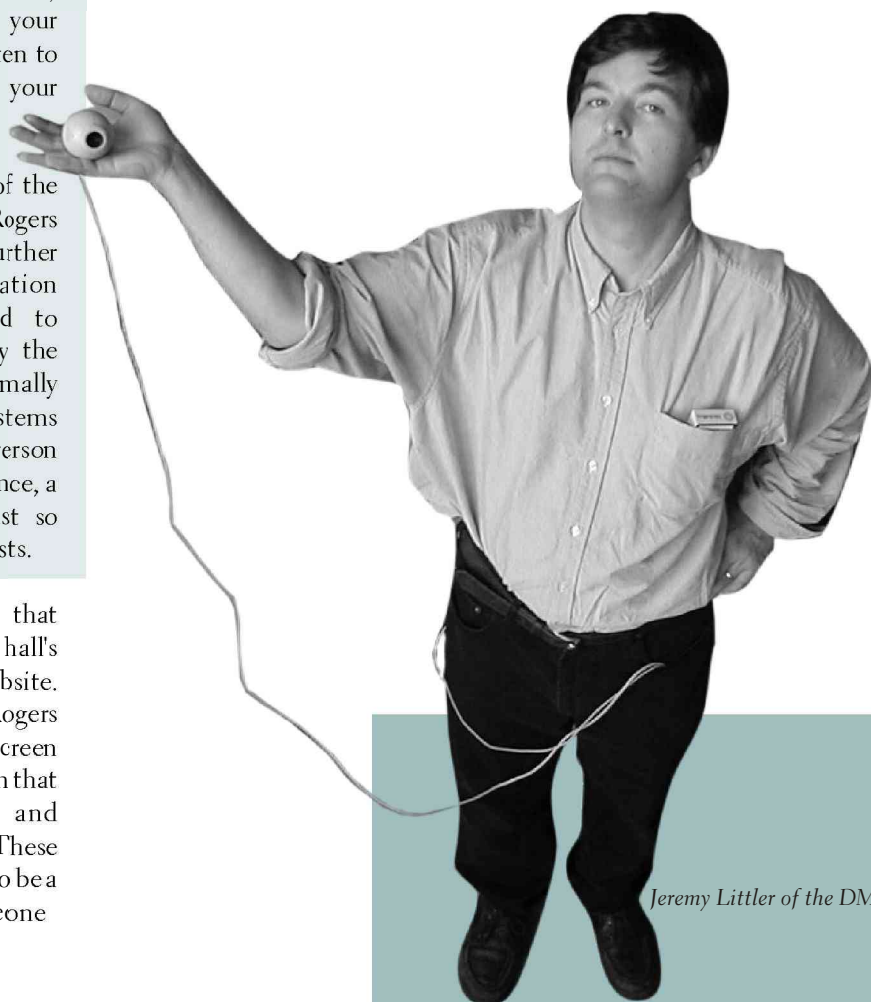
Jeremy Littler of the DMP has been at the heart of the development. Working in co-operation with the Rogers Communications Centre and SPIRIT radio, he has further developed RyeCast, Ryerson's video information streaming site. Recently, RyeCast was used to experimentally broadcast lectures put forward by the Digital Media Institute. Later this summer it was formally incorporated into the International Society of Systems Sciences (ISSS) conference that was held here at Ryerson and streamed live to the world. During this conference, a message board was integrated into the broadcast so remote participants could ask questions of the panelists.

RyeCast uses a transportable computer system that accepts an input from a video camera and the lecture hall's sound system and instantly streams it live to a website. Currently, work is being conducted in the Rogers Communications Centre to develop this into a full-screen Internet broadcast scenario. Littler is testing a system that incorporates Real Media, Windows media and QuickTime media for a single stream broadcast. "These are all competing streaming technologies. We want to be a multi-platform server," says Littler. "That way if someone

comes to us during an event and has a certain media they want to use, we'll be able to do that. That's the plan."

During the ISSS conference, the RyeCast website was accessed by individuals all over the world. "We had hits from South America, Europe and the United States," says Littler. "So far, the feedback has been very positive." Littler hopes that RyeCast technology will eventually allow Ryerson to broadcast classes via the Internet. Along with students ability to view, and perhaps review lectures, the technology will be useful to Ryerson's Distance Education initiatives. The ultimate goal is to incorporate the technology directly into the "Smart" classroom podiums. Online students will be able to view the lecture, as well as any presentation material displayed on the podium.

So far RyeCast has broadcast over 40 hours of live material without a single system crash. It uses a custom workstation designed specifically for the task of broadcasting streamed media. As well, RyeCast has acquired a new server that will allow for a further rollout to the entire Ryerson community. Currently, RyeCast is being housed on the SPIRIT Radio server, but will transfer to the new server in the next few months. For additional information please contact Jeremy Littler: jlittler@acs.ryerson.ca.



Jeremy Littler of the DMP

demonstrates research leadership

at SIGGRAPH 2000

During this year's SIGGRAPH conference, Ryerson's CoMedia research team was able to exhibit their newly developed, on-demand, parallel and XML-enabled rendering engine to over 25,000 attendees. On-demand means that the render engine is only called into use when its services are requested. This follows a rapidly evolving Internet business model where consumers will be able to contract a variety of services as needed rather than building and running their own infrastructure full time.

CoMedia is a joint research initiative between the Fraunhofer Institute in Germany, Robert Bosch, Manage Data Inc., SMART Toronto, IMAT and Ryerson Polytechnic University. Its goal is to help create a cooperative platform that will allow people from various disciplines (animation, CAD/Cam design, multimedia, video) to work collaboratively at a distance on design projects.

The XML-enabled render engine is able to read files that use eXtensible Markup Language. It is the intention of CoMedia that XML becomes a universal model language, much as HTML has become the universal language of Internet authoring. "Our approach here is 'let's do everything in a world-standard language using XML, and use that as the *lingua franca* to talk to the rendering services.'" says Dr. Michael Murphy, part of CoMedia's research team.

SIGGRAPH is short for Special Interest Group on Computer Graphics and Interactive Techniques, and are part of the Association of Computer Machinery (ACM). SIGGRAPH is held each year and is "the preeminent conference in computer graphics and computer based animation and special effects," claims Murphy.

The rendering service, unlike the tools currently available to animators, is available over the Internet. For example, creating the surface of a 3D object "is a very computing-intensive process," says Murphy. Typically, that requires either several computers to run simultaneously, or a super-

computer to run overnight. "The rendering service that we showcased here operates on the Internet, and you can actually pull together as many machines as you want from 'out there' to speed up the process." Murphy says.

The other aspect of this service involves an e-commerce based delivery vehicle for rendering-type services. "What this service does is allows you to go to a broker, who then says 'what companies out there on the internet are willing to offer these kinds of services?'" Says Murphy. "Maybe I'm George Lucas, and I just finished rendering 'the big project' and its out there making millions in the theatre, and maybe my facility is just sitting there doing nothing," he adds. Why not put machines that are currently "sleeping" to work?

CoMedia's rendering service is part of a larger infrastructure still in development. So far, the reaction has been very positive. "It was well received (at SIGGRAPH)," says Murphy. •



Michael Murphy at SIGGRAPH 2000

9



THE singapore mission

Ryerson, along with six other Canadian universities, colleges and polytechnic institutions took part in a partnering and matchmaking mission to Singapore during the summer of this year.

The purpose of this mission was to introduce Canadian institutions with strong technological and content production and research mandates in the area of broadcasting, interactive television, new media, convergence and multi-modal delivery platforms to similar institutions in Singapore and Southeast Asia. These introductions could provide an opportunity to develop collaborative research and development projects in these burgeoning industry sectors.

The results of the mission far surpassed what had been expected. Interest in pursuing joint projects was not limited to 'new media technology building'; several institutions will be sending delegations to Canada in hopes of undertaking student and faculty exchanges, curriculum development and training opportunities. Canada will be hosting delegations from Singapore and Southeast Asia in the next few months.

As well as hosting return visits, other positive outcomes include the discovery of new potential partners for existing projects, negotiations of comprehensive training partnerships such as the one between Sheridan College and Crest Communications - with respect to a large international animation centre, to be situated in India. Most importantly, the mission resulted in relationship-building activities that will continue to grow and foster tangible outcomes. •

CONVERGENCE t v .com

Members of the Rogers Communications Centre, and its associates (IBDG/IBO) attended ConvergenceTV.com the first week of July this year. The conference, produced by Brunico Communications Inc. was a two-day discussion about the future of television. Brunico is also the producer of Playback, Canada's bi-weekly broadcast and production journal, as well as other titles.

Discussions were moderated in part by Beverley Milligan of the RCC, and topics ranged from technical aspects to the future of television content. The conference was especially important for the IBO (Interactive Broadcasting Ontario) Group and IBDG (Interactive Broadcast Development Group) in terms of developing new ideas, as well as recognizing the need for such interest groups in Ontario.

Several key speakers included Lucie Costin-Hall, Clive VanderBurgh and Charles Zamaria from Ryerson's School of Radio and Television Arts, Terry Harvey, Manager of Broadcast Engineering Systems at Ryerson and Brad Fortner, Manager of Operations at the Rogers Communications Centre.

The conference tackled tough, yet important questions regarding the future of interactive television, convergence and interactivity. Among them were basic questions such as: what is convergence? And do we need interactivity? While these topics seem easy enough to answer, they are the foundation for what the IBO and IBDG groups are working on and require real answers. •

CHANNEL 84 creating a cable community



In the 1970s Ryerson was wired across campus for television in a substantial way. “Among my first impressions of Ryerson when I toured here in 1974 was a series of television monitors that were quite prominent in the hallways,” recalls Brad Fortner of the Rogers Communications Centre. “They provided useful information about events at Ryerson and assisted me in finding my way around the campus. Later, when I was first hired at Ryerson, my job duties included updating the messages that were distributed on campus via cable TV.” However, changing fortunes of the University's finances in the 1980's resulted in the system being removed from service. “I always thought that it was a shame that Ryerson lost that service. Given the way Ryerson has grown, I believe the service is required even more today to improve communication and our sense of community,” adds Fortner.

Happily, the opportunity to rebuild such a service has arrived. What sparked the revival was the updated cable system that was initially installed in the Rogers Communications Centre. This allows for the insertion of five standard television channels and the distribution of them inside the University. The service currently operates in an experimental mode on channels 80 through 84 and is available in the Rogers Communications Centre, Student Residences and in the area of the Ryerson Theatre. However, turning a good idea into a reality takes a lot of work. Beyond Fortner's championing of the idea there remains the challenges of re-working the cable system across campus and providing content for the channels.

Understanding the benefits of such a system, Terry Harvey (Manager, Broadcast Services, CCS) is also working hard to renew the cable systems campus wide. “The initial cable system that was installed on campus in the early 1970's does not meet the specifications of a modern cable system,” he says. “Today's cable systems can carry hundreds of channels both analogue and digital. They can also deliver full Internet connectivity as well as provide a means to send television images two-ways. The existing wiring, which dates back to the 1960's, simply is not up to the task. However, the costs to revive the wiring in the Learning Resource Centre (LRC)/Jorgenson hall is not an expensive proposition.”

Last year the Rogers Communications Centre tasked Dave Han, then a third year Radio and Television Arts student, to launch Channel 84 in an experimental

operating mode. Channel 84 is a text-based information station and is based on Ryerson's 1970s model. In conjunction with New Media students Melissa Gullo and Andries Boekelman, all three students envision big things for Channel 84.

Fortner believes that the problem of the stations credibility experienced by the students would dissipate if the signal could reach the main entrance of the LRC. “With Liaison, Admissions and the Student Union in that area it has become a hub for information about Ryerson. For many that area is a first point of contact with Ryerson. It would be to everyone's advantage to provide information, especially as people are waiting in lines during peak periods, for instance,” says Fortner.

Boekelman could not agree more. “If this were broadcast in lower Jorgensen Hall, everyone would already know about it. If someone really wants to push this station, there's lots available. It's wide open, the facilities are there, we just need the manpower.”

Fortner believes the service has the potential to pay for itself. “Once the cable is in place it's inexpensive to establish hanging monitors in key locations and start cycling messages.” He adds, “I believe we could easily attract advertising dollars from local businesses that would cover the staffing required to collect and manage the content. They could be included as part of the messaging cycle. There are a lot of eyeballs on campus and the demographic is well defined. That is something advertisers like. I know that there will be a lot of interest in this system if we deploy it.”

Beyond a community messaging service, upgrading the cable system across campus would have other benefits. For example, the remaining channels could be used for specialized content such as student productions and lecture broadcasts. Cable also makes an excellent medium for the distribution of the Internet. For anyone interested please contact Brad Fortner at the Rogers Communications Centre. •

introducing >

BEVERLEY MILLIGAN

When Beverley Milligan started out in life, she didn't plan on changing the television industry. "I just knew I had an interest in television broadcasting and broadcast policy," she said. Fair enough.

But since earning a degree in Mass Communications and Linguistics from York University, Beverley has led the drive for closed captioning availability on Canadian television. Closed captioning is the text that is shown during a television program to aid the hard-of-hearing community.

Coming from a family of two deaf parents, she started a company called Haylea Systems (formerly LOBCO Inc.), and another called Canada Caption Inc., and has pushed closed captioning into the mainstream.

"I ended up leaving broadcast and working with the deaf and hard-of-hearing communities to see what I could do to push forward the captioning agenda."

She encountered two problems. First, nobody wanted to pay for it. The broadcasters didn't want to do captioning because they couldn't find a good way fund it, and the deaf and hard of hearing communities couldn't pay for it. Second, the technology was not up to par. Captioning was cumbersome work, and there was no equipment to make it more efficient.

Eventually she figured out a way for the broadcasters to fund captioning. Most people have seen it, but few actually realize the significance of it. "Closed captioning for this program is brought to you by..." was invented by Beverley. Most people just think it is another advertisement, but the money paid for that 10-second "billboard" is actually used to pay for captioning.

The challenge of technology was overcome by Haylea Systems Inc. investing in a product called VoiceWriter TM. "I worked with captioners in the Canadian Industry

to come up with a technology that they could use more effectively and thereby bring the cost of captioning down."

With Canada Caption Inc. marketing the service to broadcasters, networks started to use it. By December of 1998, all of the Canadian English programming was closed captioned. And while she still owns Haylea Systems, Beverley moved into another uncharted sector of the broadcast industry.

She is now working full time with Ryerson's Interactive Broadcast Development Group to research the potential uses of interactive television. "It's all about innovation," she said. "My main responsibility is to work with industry and to get them involved and participating in the production of innovative content, under the IBDG umbrella."

"The goal of IBDG is to work with the Canadian broadcast industry to build an infrastructure for interactive broadcasting that is second to none in the world."

Beverley's efforts have not gone unnoticed. The Canadian Association of Broadcasters presented her with a 1998 Gold Ribbon Award for "Outstanding Contribution to the Broadcast Industry," a category created specifically for her and her efforts with captioning.

Meanwhile she sits on committees for Industry Canada, the Ministry of Transportation, and the Canadian Standards Association as adviser on accessible communication. She also works with Canadian Digital Television (CDTV) finding partners and business models that justify the change from analogue to digital TV. •

MY MAIN RESPONSIBILITY IS TO WORK WITH INDUSTRY AND TO GET THEM INVOLVED AND PARTICIPATING IN THE PRODUCTION OF INNOVATIVE CONTENT



Beverley Milligan of the IBO

reshaping

TELEVISION

Broadcast television signals are changing from analogue to digital. Part of this evolution will include the introduction of High Definition Television (HDTV). To aid this transition and promote action in this culturally important area, Canadian Digital Television Inc. (CDTV) has been established. CDTV is a non-profit organization made up of members from the nation's leading broadcasters, cable and satellite service providers, researchers, retail groups, and manufacturers.

To ensure Ryerson's participation, several faculty and staff at Rogers are taking part in the four CDTV working groups. They include the Technical Working Group, the Economic and Marketing Working Group, the Communications Working group, and the Production and Training Working Group. Terry Harvey (CCS), Beverly Milligan and Brad Fortner (Rogers Centre), and John Hylton (School of Radio and Television Arts) all sit on CDTV committees.

"Ryerson's involvement in CDTV is important for a number of reasons which impact on their involvement in the working groups," said Michael McEwen, president of CDTV. "The Technical Working Group, for example, keeps everyone up-to-date on the technology and this gets passed on in the teaching environment. Digital affects everything - from transmission, to studios, master controls, editing and production. Ryerson is part of the group of broadcasters and service providers who have to face the reality of those issues," McEwen says.

**IN THE EVOLVING WORLD
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AND ENTERTAINMENT DEVICES
THIS NEW FORM OF TRANSMISSION
HAS THE POTENTIAL TO DELIVER
LARGE AMOUNTS OF DATA
SIMULTANEOUSLY
TO MILLIONS OF DEVICES.**

There are several advantages to digital television, beginning with a clearer picture. It's far better than any analogue TV currently available and being digital it eliminates "snow" and ghosting of the image common in analogue reception. High definition sets have a 16:9 aspect ratio, making a wider screen similar to that of a movie theatre. The sound for HDTV is Dolby® Digital Audio similar to that used on consumer DVD players.

Terrestrial Digital Television will also be able to transmit large amounts of data directly to your home. In the evolving world of portable business and entertainment devices this new form of transmission has the potential to deliver large amounts of data simultaneously to millions of devices. "This kind of broadcast pipeline could overcome one of the major limitations of the Internet," adds Brad Fortner of Ryerson's IBDG project. "Currently, if a TV program, such as the Super Bowl broadcast, generates millions of simultaneous hits on an Internet server, the service breaks down. Digital television allows the website to be transmitted to the home, stored in the TV appliance and accessed via interactive technologies such as set top boxes or storage devices embedded in the TV set."

While CDTV is focusing the debate on the business cases involved in terrestrial digital broadcasting, the Rogers Communications Centre is addressing Digital Television through several initiatives. "At their core, both the Interactive Broadcast Ontario project and the Interactive Broadcast Learning Lab explore the datacasting potential of this new medium," says Fortner. "As well the Perfecte project, which was based in the Centre, resulted in Canada's first High Definition student produced television drama."

Fortner is a strong advocate of advancing both RTA and the Motion Picture component of Image Arts into a high definition environment. "An increasing percentage of television production originates in High Definition. This is occurring in anticipation of the acceptance of this medium. The change on the production side is well underway so it's important that our production-based courses are in sync with industry changes. Like everything we've seen with digital, these changes, along with the required skills and thinking, occur on a societal basis faster than we often imagine," concludes Fortner. •

NEW MEDIA:

Growth and Development

Jim Wilson, Minister of Energy, Science, and Technology, came to Ryerson in February for the launch of Interactive Broadcast Ontario. At the Rogers Communications Centre, Wilson announced about \$6 million in government funding for various sectors of new media development.

"I'm both delighted and excited about the future potential that we're unlocking here today," said the Minister.

Dr. Michael Murphy, Academic Director of the Rogers Centre, was equally enthused. "Today solidifies a commitment from the Ontario Government to generate partnerships and foster new growth and development," he said. "This is an exciting time for Canadians. Never before have we seen so many changes and partnerships being formed in the broadcast industry," he said.

Interactive Broadcast Ontario (formerly InterCast Ontario) received a \$1.2 million grant from the province's Interactive Digital Media Small Business Growth Fund. Ryerson's Interactive Broadcasting Development Group will play a large part in the IBO's relations with the industry sector. The two-year project will see new media companies partnered with broadcasters to experiment with the various possibilities of interactive broadcasting. "The government has a reputation for acting slowly," said the Minister, "here, we're moving fast."

Speakers at the announcement included Ryerson President Dr. Claude Lajeunesse, Bill Collins from the Ottawa Centre for Research and Innovation, Luigi Ferrera from DXNet, Paul Hoffert of the Cultech Research Centre, Smart Toronto Chair and Silicon Graphics President Dave Wharry, Paul Chato of Electra Media, and Sheldon Levy, the Chair of the IDM Small Business Growth fund.

I'M BOTH DELIGHTED AND EXCITED ABOUT THE FUTURE POTENTIAL THAT WE'RE UNLOCKING HERE TODAY...

Each presenter talked about his organizations participation in the project. Luigi Ferrera gave the minister a virtual tour of the VR Centre, another recipient of the government investment. The (virtual) tour was set up at the Design Exchange (www.designexchange.org).

Only one significant glitch accompanied the event. Bill Collins gave a demonstration of online video conferencing with his office in Ottawa. The picture, however, was quite distorted and barely recognizable, and the sound was choppy and fuzzy.

"I guess you can see why we need the money," Collins joked to the Minister.

Also from the fund, \$1.5 million is going towards virtual reality studies, \$1.1 million to an integrated human relations project, \$1 million to the New Media Centre at Liberty Village, \$800,000 to the Digital Media Platform Project, and \$750,000 for DXNet and the Ontario Design Exchange.

This investment by the province was aimed at helping new media industry achieve its full potential. Thirty thousand jobs could be created in what will be a multi-billion dollar industry. Dave Wharry congratulated the government for taking action. "This [growth] is what we deserve, but it is by no means assured. It's nice to see the government not just giving encouragement, but making an investment," he said. •

a

CLEARER

view

of the

> future



Until a few short years ago overhead projectors, along with slide projectors and crude video projectors, were the only display technology available at Ryerson for classroom presentations.

Over the past few years Ryerson has been committed to modernizing classroom technology. The installation of several “Smart” presentation lecture halls, the development of portable projection carts and the upgrading of technology available on loan to faculty through the Presentation Technology Services department of CCS have resulted in substantial improvements across the campus.

In anticipation of the next wave of display technology two 42” Panasonic plasma display screens are employed in the Rogers Centre. The devices show all forms of images including standard television right up to the new High Definition formats being transmitted in the United States. They also display a myriad of computer resolutions so clearly that those involved in classroom technology in CCS are monitoring the Rogers experience closely.

“We’re trying to bring appropriate technology into teaching and learning,” says Leela Ramparas, Manager of Presentation Technology at Ryerson Polytechnic University. Ramparas is currently examining the benefits of plasma display as a solution for presentation technology situations for electronic classrooms University wide.

From a usability standpoint, flat screens operate like a standard TV and are so thin they can be hung on a wall. The image has zero distortion and 160 degrees of viewing space, meaning people sitting to the side of the screen have the same view as those sitting right in front of it. Currently, the cost of plasma display technology limits its application at Ryerson. However, they are ideal for smaller rooms and environments of limited space. The big advantage is that the displays are so bright they can be employed in normal classroom lighting conditions. Dimming the lights is not required.

Currently, there are two plasma display screens in the Rogers Communications Centre. One is used in a boardroom and the other has been fitted to a wall as part of a demonstration area that is part of the Interactive Broadcast Ontario project. The latter will eventually be used in the Visual Computing Lab as a teaching tool.

The Rogers Centre requires these displays as it prepares itself for HDTV, the next step in broadcasting. The Rogers Centre has partnered with Direct To Home provider Star Choice and is in the process of having a DTH dish installed on the roof of the Rogers building. It will pick up true HDTV broadcasts that are being distributed by Star Choice in Canada and will be able to display them on the plasma screens. This will allow Ryerson faculty to familiarize themselves with the qualities inherent in the new HDTV medium.

To advance an understanding of HDTV production technique, the Centre has taken several steps. They have installed digital 16X9 capable cameras in Television Studio C with the corporate support of Hitachi Canada. The Centre has also supported the development of Canada's first High Definition Television (HDTV) student produced drama, *Perfecte*. •

continued from page 2

TELEVISION STUDIO C AND HIGH DEFINITION TELEVISION

Television Studio C received a significant digital camera upgrade last year with the assistance of Hitachi Denshi Canada. "Over the course of the Academic year we will install a digital switcher and move the studio closer to the bluescreen virtual sets environment." Fortner noted. "One might also expect to see the development of an HDTV origination and editing facility either in the studio or in the post production area over the next academic year."

INTERACTIVE BROADCAST LEARNING LAB

The Interactive Broadcast Learning Centre is a lab that has been set-up as a partnership between Radio and Television Arts (RTA) and the Rogers Communications Centre (RCC). Many faculties external to the Centre know the lab as it supports some of the workshops offered by the Digital Media Projects Office.

The area consists of a 20-seat lab that is shared between RTA and the RCC and a series of interconnecting rooms for applied research and RTA practicum. The purpose of the lab is to focus on the emerging area of datacasting (digital broadcasting) and content creation in data-enhanced broadcasting. It is currently serving as the base for the Interactive Broadcast Ontario project.

"The 20-seat lab mirrors software being taught in the Applied Arts Multimedia Minor," Fortner explains. "However, we've continued developing streaming media capability to address specifics to those working in the field of television. In the area of interactive webcasting we're continuing to build upon the tools that employ Real Media. This includes tools that work with SMIL - Synchronized Multimedia Integration Language - along with a significant improvement in the Real Media Sever that services the School of Radio and Television Arts along with the Rogers Communications Centre. This year we've noted that Apple's Quicktime format will work with SMIL and we may look at incorporating it into the lab"

"Jeremy Littler of the Digital Media Projects office has done extensive work on developing our Real Media Server that will allow for live Web Casting. Our goal is to have a system that will place any video we want live on the Internet. Jeremy, in the meantime, is examining how the same technology might be integrated into our SMART classrooms so faculty can web cast their classes," Fortner concludes.

SHARED AUDIO LABS

"The Shared Audio initiative now spans two buildings," says Fortner. "Shared facilities are now located in both the Image Arts and the Rogers Communications Centre and are used by both Image Arts and RTA students. This year the Shared Audio Production Co-ordination Centre is being enhanced. Four PC stations are being added equipped with SAW and SAW PLUS, ACID and Vegas Pro. DAT, Cassette and a CD are used for both input and output. They will assist students in adding audio to the network and removing completed projects from it."•

Rogers Communications Centre
Ryerson Polytechnic University
80 Gould Street Toronto, Ontario M5B 2K3
www.rcc.ryerson.ca

staff
Erica Basnicki - content writing
Brian Chick - content writing
Brad Fortner - content writing
Cathy Gee - content editor
Radek Pacanowski - layout / design

Editor
Cathy Gee
(416) 979-5282 cgee@acs.ryerson.ca

Projects and Research Support
Ron Rankine
(416) 979-5143 rrankine@acs.ryerson.ca

Manager - Operations - Contributing Writer
Brad Fortner
(416) 979-5232 bfortner@acs.ryerson.ca

a rogers communications
centre
quarterly
publication

Digital Media Projects Office
(416) 979-5000 ext. 7273
dmp@acs.ryerson.ca www.ryerson.ca/dmp