RYERSON

Canada's Foremost Educational Centre for Digital Communications

our
mission

The Rogers Communications Centre at Ryerson Polytechnic University has become Canada's premiere facility for degrees, research and professional development in the creation of electronic media and digital communications. Since its inception in 1992, the Centre has supported and enhanced the University's educational and professional developments in New Media Technology.

rogers communications centre

Ryerson's Rogers Communications Centre serves four of the university's acclaimed degree programs in media/electronic communications: Journalism, Radio and Television Arts, Applied Computer Science, and Image Arts. Starting in 2000, it will be home to a graduate program in communication and culture. The Centre is a fully interactive and highly adaptable communications environment, featuring state of the art computing laboratories and networked multimedia facilities.

foci

the *centre* *houses over*

100

TELEVISION
AND VIDEO PRODUCTION FACILITIES that include

Four fully equipped, broadcast-standard television studios with complete ancillary equipment

Nine remote production plates fully capable of remote three camera shooting including audio and intercom

An interactive two-way Rogers coaxial cable system that provides five in-house channels that feed Ryerson's campus and residences

Sixty-five DVC-Pro, Betacam SP and S-VHS EFP production systems, including lighting and audio equipment

Two SONY Betacam A/B roll suites

Two SONY Betacam straight cut suites

16 mm to videotape transfer facility

Experimental Windows NT based HDTV/Digital Film compositing workstations employing Intergraph hardware and Digital Fusion software

Closed captioni insertion centre

Four digital Pe with MATROX software

Twenty-five m code burning a

SCALA and channel origi

Premiere RT

Compact di

Pinnacle D

Web TV A

Nine Inter workstatio

accommodates over **30** AUDIO PRODUCTION STUDIOS
AND RADIO PRODUCTION FACILITIES that consist of:

SPIRIT, a student produced Internet radio station

Two radio control rooms (one designed for digital automation)

Two radio news recording studios with complete production centre

Thirty digital audio workstations equipped with SAW software and DAT equipment

Ten Midi production studios equipped with cakewalk for Windows software

Three digital recording studios using DA-88 recorders

One fully digital audio production studio

One Dolby Audio mixing studio including Soundmaster audio-for-video control

Five audio studios capable of audio-for-video with SMPTE chase lock

Eight voice editing facilities for news production

One Midi production studio with advanced Midi computer cards, a variety of keyboards, drum machines and Soundbanks

Ten portable minidiscs and one Prodat field recorder

An audio library containing sound effects, stock music and complete ancillary equipment required for audio production

has over **800**

STUDENT ACCESSIBLE COMPUTERS SUPPORTING THE COMPUTER
COMMUNICATIONS INFRASTRUCTURE. they include:

A twelve-unit Pentium computer lab equipped with the latest multimedia, Inscriber character generator and Internet production software including Digital Fusion Software

A twenty seat Pentium II datacasting lab containing ADOBE and Macromedia software for fixed media development, Wright Design 2.0 Imaging software, Internet authoring and ScriptPerfection interactive script development and TAG software

Six Journalism labs containing 140 computers equipped with AVID/BASYS and Avid Star Newswriting software for the Television and Radio news environments

The Ann Bartley-Smith resource centre with Internet access, CD-ROM and print reference research materials

Three journalism classrooms equipped with 120 computers with Microsoft Word, Quark, and Internet based applications

A magazine writing lab and newspaper production lab equipped with over forty Apple Macintosh computers and a complete Apple newspaper layout environment

Over a dozen computer networks comprised of Ethernet, Fast Ethernet, Fiber Channel, IEEE-1394, Gigabit Ethernet, Token Ring and ATM. These networks link Rogers Centre facilities locally and globally through the Internet and a fiber optic link

A twenty seat Dual Pentium III visual computing lab for animation and 3D visualization tool development. The lab includes SoftImage, Lightwave, Houdini, Wright Design and the Visual Studio development package from Microsoft

A PC demonstration lab containing Macintosh G3, Digital Alpha, Dual Pentium and SGI NT and O2 workstations

A Cold Fusion workstation and server

Osprey Real-Time Media Streamer for live internet TV application

Research &development

The Rogers Communications Centre holds advanced research and development in the highest regard. The mandate is to be a technological leader in the world of education with development efforts extending to industry through its quality R&D services. The RCC supports the ongoing development and testing of systems and networks, as well as training in areas like interactive multimedia and telecommunications & teleconferencing.
The new Visual Computing Lab fosters an environment where Applied Computer Science's advanced programming skills mesh with the media design and management skills studied in Ryerson's Communications schools.

A Track Record of applied research

The partnerships surrounding Ryerson's mediaBridge research project have played significant roles. StorageTek, Alex Informatics Inc. and Matrox have each had a hand in helping mediaBridge work towards its two main goals; to develop a facility that serves video streams for multimedia presentations and to provide Ryerson with affordable, large-scale, non-linear editing. The RCC is currently using a StorageTek mass storage device, with a storage potential of 40 terabytes (40,000 gigabytes), and an Ethernet network with a Jigsaw SCSI switch. Together these units feed the RCC non-linear and visual computing systems, providing students with rapid access to the large amounts of data required by the digital production environment. In addition, the RCC developed a nearline storage device to provide extremely fast access to the web and network course information stored within it. The multimedia and digital editing workstations located across campus can communicate with each other and form an "enterprise wide" communications network.

professional development

The RCC has become a headquarters for industry conferences, international development, and research on an international scale. The RCC is now an important and central point for the media business in Toronto, having hosted events such as the worldwide launch of SONY'S Digital Betacam, the worldwide launch of Side Effects Houdini 3D software and the Canadian launch of Microsoft's WebTV.

NewMedia
production group

The Rogers Communications Centre offers production services to support distance learning, industry and research. The group that comprises the production team has been producing media for close to two decades. With hundreds of video productions to their credit, the group has a long history of producing interactive distance multimedia educational materials. The production unit pioneered interactive distance training on videotape and videodisc in the 1980s. When the Rogers Centre was founded in 1992, the production unit initiated a networked multimedia production, (the Paris Project - Packetized Automated Routed Integrated System) delivering interactive full motion video over a token ring network.

The Production Group has been actively involved with the Internet since 1992. With dozens of sites to its credit, the group creates and manages a range of promotional, informational and distance education web projects.

locally the building houses
professional and *industry associations*

including:

- CJRT-FM,
- the Ontario Press Council
- CANARIE Inc. (Toronto Office)
- Interactive Broadcast Development Group
- Digital Radio Rollout Initiative
- Canada's Coalition for Public Information

The RCC also provides meeting space for many of Toronto's professional communication groups including:

- the Audio Engineering Society
- the JAVA Users Group
- SIGGRAPH (Toronto Chapter)
- the Society Of Motion Picture & Television Engineers (SMPTE)
- The Interactive Multimedia Arts & Technologies Association (IMAT) and the Toronto Chapter of the International Television Association (ITVA) also make use of the Centre on a regular basis.

ATVEF-The Advanced Television Enhancement Forum is an coalition of companies from broadcast and cable networks, television transports, consumer electronics, and PC industries to set standards for HTML-enhanced television. The technology opens the door for interactive, enhanced content that can be sent to capable receivers by analog, digital, cable, and satellite. The group facilitates the creation and distribution of enhanced multimedia content. (www.atvef.com)

CDTV is a non-profit industry organization endorsed by the Canadian Government. Canadian Digital Television Inc. is comprised of members from Canada's leading broadcasters, pay and specialty service providers, cable, satellite service providers, retail groups, as well as the manufacturers of Canada's best-known brands of televisions and other consumer electronics. Ryerson is a member of CDTV and participates in the business, training, and technical working groups of the organization. (www.cdtv.ca)

Dolby Digital Audio-Giving Ryerson's students opportunities in emerging areas, the innovative Dolby Digital Audio Suite opened in February of 1999. The facility allows students to learn surround sound audio production for use in multi-channel environments. Utilizing equipment supplied by primary audio partner Tascam, Ryerson students will use the same technology that is used in movie theatres, HDTV and home theatre. It is clearly a standard that the industry is following and is becoming popular for use in multimedia applications, music recording and on the internet. (www.dolby.com)

The Ontario Press Council has a fundamental interest seeing that a high standard of quality in print journalism reaches the public it serves. It plays an important role in defending the freedom of the press on behalf of the public and press alike as it deals with complaints and ethical issues in the press. The Ontario Press Council is housed in the RCC. (www.ontpress.com)

SMART Toronto is the city's "technology Chamber of Commerce". Its mandate is to build Toronto as a centre for digital media and culture. SMART Toronto brings private and public sector interests together to create significant economic, social and cultural benefits. SMART Toronto's members include companies in the technology and new media sectors, educational institutions, the major banks, and companies who use and apply technology solutions. (www.sto.org)

Video Editing-With the help of corporate partnership and support from Intergraph Computers, Digital Processing Systems (DPS) and Panasonic Canada, the RCC is undergoing a massive upgrade of its video editing technology. As an area of specialty and academic priority, the process of converting from analogue to digital technology is well underway. The upgrades will see that the students of the three schools (Radio and Television Arts, Journalism and Image Arts) have easier access to the facilities and have access to a modern working environment.

a leading EDGE

facility

Since its beginning, the Centre has been funded and equipped with the support of industry partners. Through these partnerships, we have developed a leading edge facility for training, development and research. The list of partners continues to grow and today includes:

AVID Technologies (Basys)
Astral Communications Inc.
Bank of Nova Scotia
Baton Broadcasting Inc.
City-TV
Cogeco Inc.
Digital Processing Systems
Eaton Foundation
Extend Media
eyeon Software
FCB Canada
Forefront Graphics Corporation
The Globe and Mail
The Government of Ontario
Hitachi Denchi Ltd.
IBM Canada
Image North Technologies
Intergraph Canada
John Labatt Ltd.
London Free Press Publishing
MCA Canada
Maclean Hunter
Matrox Electronic Systems Inc.
Multimedia Trade Shows
Panasonic of Canada
Rayrock Yellowknife Resources
Rogers Broadcasting
Roland of Canada
Sony of Canada
Soundmaster Group
Southham Inc.
StorageTek
SunLife Trust Company
TEAC/Tascam
Toronto Dominion Bank
Toronto Star Newspapers Ltd.
Toronto Sun Publishing Corp.
Wright Technologies
Xerox
YTV Canada

i b d g

The potential of interactive broadcasting is being realized through the Interactive Broadcast Development Group (IBDG) at Ryerson Polytechnic University. A dynamic group of new media content creators, broadcasters, producers, cablecasters, educators and other industry sectors, the IBDG is helping Ontario take the leadership role in the field of interactive television and radio. The IBDG will assist industry growth from development to distribution through the creation and study of highly varied prototypes of interactive broadcast content. The equipment and expertise at Ryerson offers unlimited potential for success technically and creatively, positioning Canadians as leaders in interactive broadcasting.

new media *alliance*

Created in 1997, the Toronto New Media Trainers Alliance (NMT) was formed to market the collective strengths of the members of the alliance and to promote Toronto as a "smart" city worthy of international investment dollars. Ryerson Polytechnic University is just one partner in the group that includes Centennial College, First Interactive, International Academy of Design, Seneca College, and Sheridan College. The Alliance works to profile and market the new media cababilities in the Greater Toronto Area.

studio C
television

With the assistance of Hitachi Denshi Canada, Television Studio C has become Canada's first educational 16x9 Television Studio. Studio C's 16x9 aspect ratio will assist tomorrow's film and television content producers with production concerns that relate to High Definition Television production technology. In addition, its digital infrastructure will assist Ryerson's transition into new Visual Computing technologies such as Virtual Sets, Blue-screen Effects and immersive environments.

BRAZIL

PROJECT

This project involved training 14 Brazilian engineers in the use of multimedia for the delivery of Distance Education. Dr. Michael Murphy and Ike Morgulis were key players in providing the training and consultation for Ryerson. The participants received 10 weeks of training here in Canada and there was extensive consultation in Brazil to establish the parameters and assess the needs and operational criteria for the project and the environment in which the participants would eventually be working. The resulting projects developed by the Brazilians after this training were exceptional. They continue to develop collaborative projects with Canada in the area of environmental training. In this regard, they are working with both Ryerson and Ecole Polytechnique in Montreal.

COLD

FUSION

Cold Fusion is a system of applications designed to easily integrate databases into the web. With Cold Fusion users can search, add to and modify a remote database from a web page. Web authors can design one template that can dynamically produce infinite web pages using content from up to date databases. As well, Cold Fusion can create dynamic web pages based on input by the user. This means every user can have personalized experience when visiting the same site. Here in the Rogers Centre, programmers are using Cold Fusion to create Internet resources that students, faculty and outside partners can contribute to and everyone can access. Current projects include a Canadian Children's Television Resource Site, a software resource page for the IBDG Lab, as well as experiments in dynamic on-demand media.

CoMEDIA

RESEARCH PROJECT

CoMedia is a research project whos cooperative platform that will allow disciplines (animation, CAD/Cam video) to collaboratively work at a projects. This involves creating a netw the free-flow of design information, w switch software and hardware protocc project is designed to build the bridg disciplines. The research involves dev searchable storage service/ repository for v a video handing service, and an anime service to provide capabilities that both CAD communities can use. Partners in this resear Fraunhoffer Institute and Robert Bosch Toronto's Manage Data Incorporated, SMART IMAT.

HIGH DEFINITIO

TELEVISION

Up until now High Definition Television (HDTV) has be used predominantly on a multi-camera (sports/variety) journalistic (news/documentary) platform. HDTV, howeve can be a lot more. The Rogers Communications Centre is launching its "Dramatic HDTV" research project. This new project hopes to prove that HDTV is a viable format for dramatic storytelling. A team of Ryerson students will shoot a 44min dramatic television pilot using the HDTV format. The pilot will be shot in different locations and environments, to truly put the cameras through their paces. Selected scenes will be shot with both 16mm film and HDTV for the purposes of comparing and contrasting the two media. The project involves building one of Canada's first HDTV compositing environments in conjunction with eyeon Software and Intergraph Canada. (www.rcc.ryerson.ca/perfecte)

HISTORY

OF CANADIAN BROADCASTING

Throughout the twentieth century Canadians have been at the forefront of communications. The Canadian Communications Foundation web site has been designed to chronicle and document, in sight and sound, the "History of Canadian Broadcasting," by establishing an electronic base for universities, colleges, schools, libraries, news media and communicators. While this project was initiated by the private sector, it is intended to unite all forms of broadcasting and includes materials from the CBC, BBG, the CRTC and TVO, among many others. The site resides on the Rogers Communications Centre server at www.rcc.ryerson.ca/ccf/.

DIGITAL

MEDIA PROJECTS OFFICE

Established in 1996, the Digital Media Projects Office (DMP) is a joint initiative of Computing Communications Services (CCS) and the Rogers Communications Centre. As a centralized multimedia support facility for staff and faculty at Ryerson, it offers workshops, production assistance, technical support and more. The DMP strives to combine and co-ordinate the new media expertise that exists across the University's research and academic departments. In doing so, resources are better utilized and the overall multimedia development of the University is strengthened and focussed (www.ryerson.ca/dmp).

INTERCAST

ONTARIO

InterCast Ontario is a dynamic group of new media content creators, broadcasters, cablecasters, educators, and the business sector, partnering to take leadership in the area of interactive television (InterCasting). It provides research and development to explore InterCasting. The goal is to partner new media companies with broadcasters and cablecasters and to create highly varied prototypes that demonstrate the range of possibilities in interactive broadcasting. InterCast Ontario will lead the way with a two-year undertaking in which the Interactive Broadcast Development Group at Ryerson will play a mentoring role in the convergence of industry sectors. The academic and industry partnerships will build experience, ideas, and resources to strengthen Ontario's position in digital media industries.

INTERACTIVE

BROADCASTING

The Rogers Centre has opened Canada's first facility aimed at providing broadcasting students with the training to incorporate interactive data into both radio and television. The facility has been designed to address current and future industry trends in this area. Canada's conversion to digital transmission leads to the need for synchronous data delivery to both the television and radio receiver. The learning facility will provide Ryerson students with access to research and hardware that allows them to apply their storytelling skills and help build the new medium. It will also provide the Centre with a foundation to focus on fixed media applications such as DVD and CD-ROM more closely. The interactive broadcasting initiative provides Ryerson with an important avenue on the road to advanced television. (www.rcc.ryerson.ca/ibdg)

MBONE

CONFERENCING

Recently, Ryerson collaborated with several other Universities (Simon Fraser University, University of Calgary, University of Alberta, McGill University & York University) to conduct a graduate-level course in Communications using MBONE (Multicast Backbone) to deliver the curriculum. The MBONE originated from experiments during IETF (Internet Engineering Task Force) meetings in which live audio and video were transmitted around the world. The MBONE, used to develop protocols and applications, is a network of hosts communicating using a technique called IP multicast. MBONE uses shared tools that are readily available and could eventually result in quality video conferencing on the Internet. Ryerson and the other universities participate in this research using the CANARIE Network.

LINES

A SHORT FILM

The Rogers Communications Centre is supporting the students production of a multi-streamed dramatic story entitled "Lines." From its inception, "Lines" was designed for release in several media types including DVD-Video and Enhanced Television. What is so different about lines, is that it will be presented from 5 different points of view running on parallel streams. Using a the "angle" function, available on DVD, viewers can switch from one character to another, and still follow the same story from a different perspective. This production is supported by Medallion PFA, KODAK Canada and William F. White Ltd.

MEDIA

BRIDGE

The aim of the mediaBridge project is proclaimed squarely in its name; to act as a bridge for new media travel at Ryerson. By interconnecting multiple video streams throughout Ryerson facilities and developing affordable non-linear editing, it serves the entire campus with new media accessibility. The Rogers Communications Centre has a StorageTek mass digital near-line storage device with a storage potential of 40 terabytes (40,000 gigabytes). These units store video material digitally, then use a network connection to transfer it back and forth from the workstations.

UNIVERSITY

SPACE NETWORK

In cooperation with the Knowledge Connection Corporation, the RCC is using Virtual Lesson Technology (VLT) to participate in a one-semester multi-university course in spacecraft design. The program, started in 1995, is delivered on CD-ROM to more than 30 graduate and undergraduate students at Royal Military College, Western, Windsor, Queens, U of T, and Ryerson. There are additional participants at York, SPAR Aerospace, and Marc Garneau Collegiate. Students and the 15 professors interact via E-mail, videoconferences, and meetings. This approach to teaching is a new phenomenon; while teachers from various universities author the modules, all of the students are taking the same course.

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staff

pushing

into

the

future

In the last decade of the 20th century the Rogers Centre was built to support research and professional development in digital communications. Through partnership with industry, the RCC has achieved many of its initial goals and is continuously developing new projects to serve the broadcast and new media communities. Rogers is supporting professionals in the current media industry and looks forward to handing down a tradition of excellence and innovation to the new dynamic professionals of tomorrow.

rogers communications centre