

iEAR Studios

Integrated Electronic Arts at Rensselaer Polytechnic Institute

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Abstract: The iEAR Studios support the innovative interdisciplinary graduate and undergraduate degree programs offered by the Arts Department of Rensselaer Polytechnic Institute. The design of both the Studios and the curricula is driven by the view of interdisciplinary work in the electronic arts as being the norm rather than an exception. A key aspect of an iEAR education is an understanding of how art -- and particularly electronic art -- relates to art and music history, and to greater cultural and social concerns.

INTRODUCTION

The iEAR Studios are a complex of media studios forming the nexus of creative activity in the Arts Department at Rensselaer Polytechnic Institute in Troy, NY. The name, "iEAR," Integrated Electronic Arts at Rensselaer, reflects a fundamental philosophy of contemporary interdisciplinary art practice governing both studio and curriculum design.

All of the programs at iEAR are based on the premise that, in using computer-based and electronic tools to create art, one need not be bound by the confines of individual artistic media and disciplines. We strive to focus our pedagogy on the task of finding clear and powerful ways to convey artistic content using an ever-expanding set of media resources. What has previously been thought of as interdisciplinary or multidisciplinary work becomes the norm rather than an exception. In all degrees supported by the Studios, this radical approach to art practice and pedagogy is combined with a strong component of historical and theoretical studies.

FACULTY/STAFF

In recent years the Arts Department and the iEAR Studios have experienced almost

exponential growth in enrollment, staff, faculty and facilities. Currently we have 9 tenure track faculty, 3.5 non-tenure track faculty, 4 full-time engineering staff and 4.5 administrative support staff in addition to numerous adjunct and graduate instructors. The make-up of the faculty and staff reflects the interdisciplinary philosophy of the department including specialists in video, digital imaging, computer music, animation, robotics, interactivity, web-art, installation, drawing, painting, sculpture, and art history

FACILITIES

Rensselaer is one of the nation's leading engineering schools, and iEAR has developed as the artistic outpost in this technologically oriented environment. In addition to the vast general computing and engineering resources of the RPI campus, the iEAR studios provide educational and professional facilities for computer music, audio processing, digital video production/post production, digital image processing, animation, multi-media performance, interactivity and installation. Individual studios focus on each of these activities, as well as providing resources for the compatibility and transferability of media from one environment to the next. Several facilities are designed as fully integrated multi-media

performance and research laboratories. To summarize, the iEAR Studios include:

Graduate Computer Music Studio – Macintosh based music and sound production facility for hard-disk (digital) audio recording, editing; and post-production, MIDI control of samplers, synthesizers, and processors; computer music programming; and electronic music composition. This is a fully automated, digital audio studio with time-code sync directly to digital video.

Graduate Digital Imaging Laboratory - primary resource for computer graphics, computer video, animation, layout, and Web development. The studio includes high quality scanning and output capabilities, with access to several campus color dye-sub printers and high-quality tabloid-capable black & white plotters.

Graduate Video Editing Suite A - private suite for non-linear digital video editing via high-end Media 100 system.

Graduate Video Editing Suite B - private suite for both linear and non-linear editing. This studio supports A/B roll capability, analog special effects, digital editing and recording, and a large variety of video formats.

Integrated Studio (currently under development) - an audio and video control room facility for the iEAR Space (see below), with facilities for audio multi-track recording, live video recording and production, A/B roll linear editing, and production control for interactive performance and installation.

Digital Video Editing Lab – an undergraduate multi-user video-editing facility supporting non-linear digital video editing via four Media 100 workstations.

Undergraduate Audio Laboratory – a facility for audio recording, editing, post-production, and composition. A Macintosh-based facility, it consists of four G3 audio workstations fully equipped for sound and music production

Undergraduate Multimedia I/O Laboratory (currently under development) - an undergraduate facility for general purpose multimedia production, this studio consists of several Macintosh and Intel machines with graphics, audio, and multimedia software, flatbed and slide scanners, a color laser printer, and VHS cuts-only editing workstations

VAST Studio (currently under development) - an undergraduate and graduate facility for high-level digital imaging and animation. This is a 25-seat Intel-based lab running state-of-the-art animation and imaging software, including Softimage and other 3d computer graphics packages. This space is fully wired with over 40 ethernet ports with live internet connections, and also completely wired for running audio and video signals throughout the room, including on the ceiling. There is a standard theatrical grid for mounting projectors, special lighting fixtures, and other electronic devices, and has a fully-equipped teaching station.

Media Research Laboratory – a configurable portion of the VAST Studio facility is set aside for high-level collaborative research in the arts or other areas of electronic media, robotics, and interactive technologies.

Media Arts "Gateway" Studio (currently under development) - A teaching and production space for the undergraduate "gateway" courses, which introduce students to the basics of audio and video production, digital imaging, and performance. This studio is equipped with audio and video production equipment, lighting equipment, and general-purpose multimedia computer workstations.

Equipment room - student access to all kinds of equipment for on- or off-campus production work. The equipment includes both analog and digital video cameras, still cameras, portable DAT audio recorders, lighting kits, a large array of microphones, PA equipment, audio and video playback and record decks, MIDI gear, road

cases, and accessories such as tripods, cables and connectors, adapters, and much more.

iEARspace - a "black box" performance space for installations, small concerts, lectures, and other events. Audio and video tie lines from the space in to the other studios allow the space to be used for recordings and/or as a video production facility. In addition, there is a large motorized screen for projections, a black curtain that can be pulled around the perimeter of the room, and a configurable lighting grid.

iEAR Gallery - a "traditional" visual arts gallery, routinely used for gallery showings by students, faculty, staff, and guest artists. The gallery can also be used for video and internet installations, and as a meeting place for small-group class seminars.

Other facilities include a large raw space for graduate student studio project development, student lounges, engineering repair facilities, several seminar rooms equipped for multi-media presentation and web-based teaching, and studios for sculpture, painting and drawing.

Complete listings of current studio resources are available online at:

<http://www.arts.rpi.edu/facilities>

DEGREE PROGRAMS

The iEAR studios support several degree programs including an MFA in Electronic Arts, and undergraduate degrees offered in Electronic Arts Media and Communication (EMAC), Information Technology and the Arts (IT/ARTS), and a new BS in Electronic Arts.

The MFA in Electronic Arts was initiated in 1991 and was the first program in the United States to offer a course of study that fully integrates the aural and visual electronic arts. Students entering this program generally have a strong background in a traditional artistic discipline, with the desire to expand their work through the integration of electronic media. The curriculum includes an introduction to the

various disciplines, and courses demanding technical proficiency in all the studios. Critical/historical/theoretical seminars, and classes stressing practical application of skills to performance, installation, and artistic production complete the program. The MFA maintains a steady-state of approximately 25-30 students in the 2-3 year program.

In collaboration with Rensselaer's department of Language, Literature and Communication, we have just seen the first graduating class of our undergraduate major in Electronic Arts, Media and Communication, or "EMAC." This joint BS combines work in fine arts, communication theory and practice, and an interface to the commercial world of media production and distribution. We are admitting 50-75 EMAC majors per year reaching a fall 2000 enrollment of 300 majors.

In 1998, in conjunction with Rensselaer's innovative department of Information Technology, a new degree was initiated in Information Technology and the Arts. This program combines a core of IT and technical courses with a secondary focus in electronic arts and maintains approximately 10-15 students per year reaching an expected target of 50-60 students by fall 2001.

Several new programs are in the planning and approval stages including; a new BS in Electronic Arts supporting an expected enrollment of 10-15 students per year starting fall 2002, and a dual program in Arts and Science and Technology Studies (STS) currently in the planning stages.

"REAL-WORLD" OPPORTUNITIES

Instruction in computer music, graphics, video, animation, interactivity, and web authoring provide for a basic multi-disciplinary skill set for all students in the MFA, IT and EMAC programs. However, we feel that the true development of these skills comes in applying them to "real-world" situations. In addition to requirements for public showing and

performance of student works, we provide a wide array of opportunities for practical experience including:

- Artist residency programs and interdisciplinary projects in arts and architecture. Recent residencies have included musicians George Lewis, Robert Ashley, Pauline Oliveros, Laetitia Sonomi, Tod Machover, Eve Beglarian, media artists Van Gogh TV, Guillermo Gomez-Pena, and choreographer Elizabeth Streb.
- hOUR iEAR, a weekly cable television program.
- hEAR iEAR, a weekly radio program
- wIRE iEAR, a conduit for real-time internet broadcasts of selected EAPS and other live performance events.
- the Electronic Arts Performance Series, a series of up to 30 performances, lectures and exhibitions by notable artists throughout the school year. Students participate as technical crew providing support to performing artists. Student produced documentation of these events is also edited for broadcast on the hOUR iEAR cable broadcast.

DESTINATIONS

Graduates of the MFA program in Electronic Arts have now established a track-record of success in job-placement, funding/grant awards, and artistic presentation. Past graduates have taught at institutions including: San Diego, Rensselaer, Contra Costa College, CUNY, Brooklyn College, Pratt, Rutgers, Hampshire, SUNY Albany, Union College, Alfred University, SUNY Oswego, Mass College of Art, Hudson Valley CC, Columbia-Greene CC, Sage Jr. Colleges, Studio Art Centers Int'l SACI (Italy), Universiti Malaysia Sarawak. Graduates have recently been recognized through awards by: Rockefeller (2), Javits, Guggenheim, and the New York Foundation for the Arts (3).

Faculty artistic work has shown in venues including: the Whitney Museum of American Art (NY), Museum of Modern Art (NY), SIGGRAPH, International Computer Music Conference, Kiasma Museum (Helsinki), ZKM (Germany) and a scheduled residency and performance at the Ohio State University/Wexner Center.

FACULTY/STAFF RESEARCH PROJECTS

Rensselaer Polytechnic is a research institution and the arts faculty are actively involved in research projects combining their primary investigations in electronic arts with other initiatives across campus. Current faculty research projects include: alternative interfaces and controllers for interactive music, video and 3D virtual worlds (VRML), net-based musical and multi-media projects, robotics in installation, use of GPS technology in large-scale artistic presentations, virtual architecture and theatrical set designs, and investigation of spherical sonic display devices in interactive performance and installation. Other activities include social and educational research into the use of technology in educational contexts.

CONCLUSION

Since the inception of our graduate MFA program in electronic arts in 1991 and subsequent interdisciplinary undergraduate offerings, numerous similar programs have been initiated world-wide. We still see our program as being unique in the complete "bottom-up" design of interdisciplinary activities involving all aspects of physical studio design, curriculum and personnel. This radical approach when coupled with strong historical and theoretical studies creates an atmosphere of innovation well rooted in the existing discourse of the arts.