Integrated Arts Technology: New Facilities at the University of Michigan

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Abstract

This studio report describes plans for the new integrated and technology center now under construction at the University of Michigan, as well as recent renovations of two electronic music facilities on the campus. Two recently implemented degree programs in music technology and inter-arts technology are also briefly discussed.

1 Integrated Technology Center

The University of Michigan recently began construction of a major Integrated Technology Instruction Center, the result of a forty-two million dollar grant from the State of Michigan. The facility will be located on the North Campus of the University of Michigan; completion is planned for the spring of 1996.

1.1 Design Philosophy

One of the main functions of the center will be to facilitate an interdisciplinary approach to arts technology research, drawing together the disciplines of architecture, engineering, computer science, visual art, music, theater, and dance into one facility. The design of the building and its intended program include provisions for campus-wide and world-wide collaboration, implementing flexible patterns of interconnectivity between spaces both within and without, including dedicated teleconferencing sites. Flexibility of the interior space was a major design concern, allowing for frequent reconfigurations in order to keep pace with the rapidly evolving definition of the arts and technology in contemporary society. The initial philosophy of the building is to provide a space which would be capable of housing a variety of project-oriented high-technology endeavors, bringing together teams cutting across traditional boundaries to engage in research and creative work.

1.2 Building Facilities

The first floor of the center will include a large video studio, with a full lighting grid and lighting pit. There is an adjacent video control room, and remote access to video recording machines in a separate room on the second floor. A complete recording studio and control room suite is also planned. The building will house the University's electronic music studios, two large independent project studios consisting of a digital audio workstation and a sound synthesis/interactive applications workstation, each with high-quality audio recording capability. Four adjacent multimedia project studios will also be constructed.

Audio design consultants oversaw the plan of all these facilities, including their interior configuration, with attention to room orientation, wall coverings, ideal speaker placement, particle filtration, and reduction of noise from pipes, ventilation, and structurally-borne impact sources. All spaces requiring sound isolation have been designed with structural features de-coupled from architectural supports, double concrete walls, floating isolated slab floors, and sound-lock entryways.

A computer visualization and design lab, a teleconferencing facility, and exhibition space also occupy the first floor. An engineering library and experimental classroom space occupy the second and third floors respectively. Plans for the deployment of resources within the Center are still underway; it would be well-served to house the University’s exhibitions in interactive reality and massive parallel processing, as well as to provide an environment for the completion of project-oriented research from any number of areas within the University.

2 Recent Renovations

In addition, the School of Music recently renovated both its computer music classroom and its electronic music studios, purchasing almost two hundred thousand dollars worth of new equipment, including fifteen Macintosh Quadra computers, as well as a variety of synthesizers, software and video equipment. This has facilitated the dissemination of computer music software and hardware throughout the School of Music, a move that will help to achieve the School's goal of one-hundred-percent computer literacy among its student population.

2.1 Computer Music Classroom

Emphasis in the School's Computer Music Classroom is on teaching the fundamentals of MIDI, sound synthesis, and basic computer music
programming; upgrades were completed on thirteen student workstations with Macintosh computers, sound modules, processors, and mixers. This facility also houses the Digital Music Ensemble, a student multi-media performing group consisting of musicians, engineers, dancers and other artists. This group is involved in composition, computer programming, and the performance of new works, including recent projects involving real-time video-music interaction with dance, applications of the Mattel Power Glove, and video animation.

2.2 The Electronic Music Studios

The Electronic Music Studios of the School of Music have been renovated with the intent of merging the unique qualities of older technologies with the latest computer music and sound processing equipment. Upgrades in these two project studio spaces include the addition of new computers, digital audio hardware and software, new synthesizers, and sound processing equipment to the existing analog and digital synthesis equipment.

Coursework available in the studios focuses on composition, ranging from an introductory course in electronic music (including studios in electronic music history, aesthetics, and composition), to a graduate seminar in advanced research topics. Recent work in the studios has included the creation of interactive computer environments for improvisation and works integrating computer music technology in theatrical presentation.

3 New Degree Programs

The Centre for Performing Arts and Technology has had in place a Bachelor of Music degree in performing arts technology; this degree is essentially a music-intensive undergraduate program. This existing course of study is being augmented with two new ones which feature an interdisciplinary emphasis. The purpose of these two new degrees is to provide students with a broad foundation in the aesthetics and history of the performing arts and an emphasis on integrating information technology systems into creative works in (or between) the arts.

The two new degrees are a Bachelor of Fine Arts, Performing Arts Technology: Concentration in Music, and the Bachelor of Fine Arts, Performing Arts Technology: Concentration in Media Arts. The two programs make use of the School of Music's diverse performing arts offerings, such as Theater, Dance, Composition, Musical Theater, Instrumental Performance, Music Theory, and Musicology. Students will also be involved in coursework in Art, Engineering, English, and Film/Video, in addition to classes in applied multimedia such as video-dance, theater production, and individual or collaborative performance/exhibition. The latter degree, (BFA in Performing Arts Technology: Concentration in Music) will consist roughly of 25% music coursework and 75% coursework from the above-listed disciplines, while the former degree (BFA, Performing Arts Technology: Concentration Media Arts) consists of approximately 66% music coursework and 34% non-music requirements and electives. Eventually, the creation of similar degree programs with specific concentrations in other areas within the School of Music or related schools within the University may also be considered.

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