GEORGIA SOUTHERN UNIVERSITY STUDIO REPORT

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ABSTRACT

This report presents an introduction to the facilities, academic programs, and research activities of the Music Technology program at Georgia Southern University. Located in Statesboro, GA, the Music Technology program features research and creative activity in the areas of interactive systems, composition, and multimedia.

1. OVERVIEW

John Thompson has directed the Music Technology program at Georgia Southern University since 2007. The curriculum features studies in sound design, signal processing, composition, and interactive systems. Both undergraduate and graduate students pursue creative activity as a primary component of their studies. The Music Technology program features several degree opportunities, including a master of music degree, a music minor, and an interdisciplinary undergraduate degree that combines Information Technology with a second discipline in Music Technology.

2. FACILITIES

The Music Technology program is housed in the Foy Fine Arts Building, which has recently undergone an extensive seven-million-dollar renovation. The move into the renovated building took place in the spring of 2009. The newly remodeled facilities include a Music Technology Lab, Experimental Music Studio (EMS), Composition Studio, CD Production room, and the 287-seat Carol A. Carter Recital Hall.

The Music Technology Lab features 16 student workstations and one teacher’s station. The student workstations are equipped with a Macintosh G5 computer, a Roland RS-5 keyboard, and a Mackie 802-VLZ. Each station incorporates Digital Performer 7, MAX 5, Supercollider 3, and Finale notation software.

The EMS studio consists of three separate rooms: the main control room, a live room with two isolation booths, and a separate live/storage room. The EMS features an Allen and Heath GL2800, a MOTU 896 audio interface, a 5.1 audio system featuring Dynaudio BM-5 monitors, and a variety of studio microphones and equipment. Additionally, the EMS studio maintains a collection of vintage 1970s sequencers and synthesizers from Electronic Music Laboratories, Incorporated.

Figure 1. The control room of the Experimental Music Studio (left). The Computer Assisted Instruction Lab (right).

The recital hall is outfitted with a digital system for recording and playback. The primary component of this system is the Yamaha LS9-16 digital console. The Yamaha console affords the use of an 8-channel system for multichannel playback. Live recording is accomplished through the use of a Sennheiser MKH418S Mid/Side shotgun microphone in combination with a TRUE mid-side pre-amp. An ADAT HD24 and a Tascam CD-Recorder, both connected through optical cabling, round out the digital system.

The Composition Studio is equipped with an iMac G4 and a Yamaha CS2X keyboard with an audio playback system. The CD Production room is equipped with 2 Macintosh G4 computers and the equipment necessary for the archiving of music department recordings.

3. ACADEMIC PROGRAMS

The Music Technology program consists of both undergraduate and graduate components. The undergraduate program features both a minor in Music
Technology and an interdisciplinary degree that combines Music Technology with Information Technology. Students take classes in Digital Audio Montage and Advanced MIDI Sequencing, as well as supplementary courses in music, including ear training, music theory, and music history. The undergraduate program treads the ground between popular music production and the creation of works in the electroacoustic aesthetic.

The graduate program leads to a Master of Music with an emphasis in Music Technology. The M.M. is a two-year program that focuses on interactive and generative techniques in an interdisciplinary environment. The program currently consists of five graduate students, most of whom are funded with assistantships both through the music department as well as other areas within the university. In addition to the core music classes, students study musical systems programming using the SuperCollider 3 programming language and interactive media via MAX/MSP. Graduate students also participate in additional studies in historical and theoretical aspects of computer music. Composition studies are an integral part of the Music Technology program, and provide students the opportunity to put theoretical concepts into practice.

4. RESEARCH AND CREATIVE ACTIVITY

Current research activity centers on computer music composition, generative systems, audiovisual work, and interactive media.

M.M. student Yemin Oh recently completed his interactive composition, “Transonics,” which features the Multimodal Music Stand developed at the University of California, Santa Barbara. The Multimodal Music Stand is equipped with 4 Theremin-type sensors that are used to detect gestures in front of the stand in three-dimensions. A thorough explanation of the music stand can be found in [1].

John Thompson composed “Sierra,” employing the Multimodal Music Stand to interact with two percussionists. His research, in conjunction with the California Nanosystem’s Allosphere, was published in the International Journal of Human-Computer Studies [2]. Additionally, his collaborative work involving interactivity and multimodality was recently published in the Computer Music Journal [3].

M.M. student Michael Olson recently completed “Murmurs,” which features piano combined with electroacoustic sound and video. Audio parameters are mapped to video parameters in MAX/MSP, and the resulting video is then combined with samples of recorded piano that have been convolved in SoundHack to create the piece.

M.M. student Lee Collins instituted a laptop ensemble at the Tattnall County High School in Georgia. This high school–level laptop ensemble’s first concert featured Lee’s composition “Colors of Sound,” written in the SuperCollider 3 programming language.

Undergraduate student Alex Sellers is focused on the performance of electronic works incorporating the saxophone. He has premiered several works featuring saxophone and electronics, including “Promethea,” by Christopher Biggs; “Dry Cell,” by J. Anthony Allen; and “Driftwood,” by Michael Olson. Alex performed these works in a recital at the International Saxophone Symposium at George Mason University, on January 16, 2010.

Compositions from the Music Technology program have been featured at numerous conferences and festivals, including ICMC, SEAMUS, the Florida Electroacoustic Student festival, and the Electroacoustic Juke Joint, among others.

Several research projects are currently in the works:

Yemin Oh is working toward incorporating a system of sensors for both violin and saxophone. This system uses physical gestures to inform a system that produces musical responses and accompaniments based on set theory.

Brandon Parham is investigating waveset manipulation through the creation of a hardware interface and corresponding software tools. An initial prototype, written in SuperCollider, has been completed. The software will be available by the summer of 2010.
Michael Olson is currently working towards developing tools for microsound composition using the Supercollider programming language. In particular, this work focuses on a modernization of the Cloud Generator written by Curtis Roads and John Alexander. While the software is still being fine tuned, it has been used in the process of composing the audio-visual work “Telsonic,” which was premiered at Georgia Southern on April 1, 2010.

5. CONCERTS AND SEMINARS

Recently, the Music Technology program has instituted the Channel Noise concerts, a bi-annual concert series featuring an international array of works. The inaugural Fall 2009 concert featured multimedia and interactive works by Georgia Southern students and faculty, as well as works from composers from around the world. Also in the fall of 2009, the music department featured a concert by saxophonist John Sampen and technologist Mark Bunce, performing works involving saxophone with interactive electronics and video. Performance opportunities at Georgia Southern also extend to the Composers Forum, an annual seminar where undergraduate and graduate composers have their works performed and are involved in an informal discussion and exchange of ideas.

6. FUTURE PLANS

The Music Technology program at Georgia Southern is still a growing effort. Since our move into the renovated facilities in the spring of 2009, we have stabilized our labs and workspaces. The act of making is of vital importance to the pedagogical mission in our program and our work will continue to center around putting ideas into practice. The graduate program is moving quickly in a direction that will yield interesting results, particularly with the current research in progress. We plan to continue to focus on interactivity, generative systems, and cross-modal composition.

The undergraduate program is popular with students. This popularity is particularly beneficial for the Music Technology program as a whole, especially in light of the need for larger class enrollments due to budgetary concerns. We are searching for a way to navigate the continuum between popular music interests and the areas of study that lead toward advanced research interests in the computer music field. Rather than exacerbate the apparent cultural divide, the program is seeking to build bridges that will connect the strong passions at both ends of the spectrum. We are hopeful that the curriculum can accommodate this challenge, and thus open the possibility for an undergraduate music technology major.

Our Channel Noise concert series will continue, given the success of our initial efforts.

7. REFERENCES

