UNIVERSITY OF LOUISIANA AT LAFAYETTE

STEP Committee

Technology Fee Application

Concert Recording and Broadcasting System
Title

Robert Willey
Name of Submitter
(Faculty or Staff Only)

School of Music and Performing Arts
Organization

Title: Concert Recording and Broadcasting System Date: January 12, 2012

Name (Contact Person): Robert Willey
Address: Angelle Hall
Phone Number: 482-5204 Email: willey@louisiana.edu
Department/College/Org: School of Music and Performing Arts, College of the Arts

ABSTRACT

The School of Music has excellent facilities for studio recordings, but is limited in its ability to record live concerts, either in the auditorium or choral room, where concerts and recitals are given. The acquisition of a concert recording system will facilitate the efficient recording and archiving of concerts by students in the Music Media program, providing them opportunities to develop professional skills using the latest technology. Recordings will be made available via downloading from the School of Music and Performing Arts' servers, providing important feedback in students' learning process, allowing them to study how they sound, and all the many details that are part of a performance they are too busy during a concert to notice, or have since forgotten. Recordings allow students to learn more from their own performances, not just the performances of others. In addition, the recordings will be a reward for the hard work that goes into practicing and rehearsing, thereby increasing satisfaction and the likelihood of future effort. Live recordings will also become a key part of their professional portfolios, which they will need to be accepted for summer programs and graduate school, and to get work after graduating.

At the same time, this system will integrate with ULL's campus radio station KRVS (FM 88.7), who has agreed to stream performances on the Internet from either venue, allowing students, and listeners around the world, to tune into broadcasts from Angelle Hall.

3. Description of the project

a. Purpose of grant and impact to student body as a whole

The School of Music has excellent facilities for studio recordings, but is limited in its ability to record live concerts, either in the auditorium or choral room, where concerts and recitals are given. The recording studio has the best equipment, but is not in communication with either of the performance venues.

A proposal is made for the acquisition of a concert recording system to allow for events to be efficiently recorded and archived. There are two parts to it, the first to connect the Recording Studio to the Choral Room, which is used for recitals. To do this, audio cables will be connected between the rooms so that that concerts taking place in the Choral Room (room 153) can be recorded in the Recording Studio. A video camera will be installed in the Choral Room, so that the student engineer in the studio can see what is going on and anticipate changes that will require their attention. Recording in an acoustically isolated space has the advantage of allowing the engineer to monitor what is being recorded accurately through loudspeakers, while remaining inconspicuous to the audience, thereby not distracting the audience's attention. The various microphones used will be mixed in the Recording Studio and mixed down to a SD card recorder. If the concerts were only going to be recorded using the studio's multi-track Pro Tools system then additional time would have to be spent to mix the recordings down to stereo. The SD recorded will be added to a live multi-track recording system funded by a previous STEP grant. This allows for the signal from each individual microphone to be recorded on a separate track, and then mixed down later to stereo for distribution. While recording concerts in a multi-track format will remain an option, and will be interesting to do in some cases, there are many events that do not require such investments of time in postproduction. Many concerts are recorded with just two microphones, and so a stereo recording is all that is needed. By streamlining the workflow, more concerts will be recorded and made available to student performers. Files on SD cards will be uploaded to the School of Music and Performing Arts servers as additions to its audio archive, along with a scan of the program and web index file.

The second, and most progressive part of the proposal, is to install one audio encoder in the Recording Studio and a second in the Auditorium control room, paired with a audio decoder in the KRVS studio in Burke Hall. This will allow the two rooms in Angelle Hall to be integrated with KRVS, ULL's on-campus NPR-affiliate radio station. Stereo mixes made in either of the two Angelle Hall locations will be encoded and sent over the campus network to the decoder at KRVS, and from there at times sent out on-air over FM88.7, while simultaneously fed into a new sound card in a computer there and streamed to NPR Digital Services, which in turn will be distributed to a potentially large audience using Akamai Global Streaming Network's bandwidth. This will increase the size of audiences, challenging and inspiring students to work towards higher levels of performance, and allow them, their families, friends, other students, and alumni to listen in on concerts when they are unable to attend in person. Increasing the number of people hearing a concert live increases the amount of quick feedback performers receive, at a time when their memories are clearest, and they are most able to incorporate information which can be drawn upon to develop their technique and musicianship in the future

This same setup can be used for another project we plan to develop—an Internet channel of original music from South Louisiana recorded in a partnership between local composers, the School of Music's Media Division, KRVS, and the Acadiana Open Channel. Past studio and concert projects from the School of Music will be sent in rotation from the studio through the audio encoder, and past on to KRVS' streaming partner, allowing a larger audience, without taxing the campus network. Many students have requested the founding of a student radio station, and this will provide an opportunity to develop their own channel.

In addition to installing a network tap and audio encoder in the Auditorium control room, a second SD card recorder will replace the CD recorder purchased with a previous STEP grant, that has since burned out. Currently the Auditorium does not have its own equipment to make stereo recordings of concerts. Recording on SD cards will be more reliable than CDs, and help familiarize students with current professional industry practices, while making it easy for those experienced in the operation of one room to transfer their skills to the other facility. The same process will be used to archive these stereo SD card recordings in the Auditorium as those made in the Recording Studio of events taking place in the Choral Room.

Recordings will be made by students in the Music Media program and student workers in the Auditorium, providing them opportunities to develop professional skills using the latest technology, recording on SD cards rather than plastic CDs, and then uploading the files to servers, which is how music is increasingly distributed nowadays. Live performance presents unique challenges to engineers. The non-repeatability of events requires them to meet deadlines, anticipate and solve problems, and to get a good-quality result even as they get only one chance. Being able to produce live recordings prepares students for another type service they will be able to provide clients in the future.

Recordings will be made available via downloading from the School of Music and Performing Arts's servers, providing important feedback in students' learning process, allowing them to study how they sound when they are performing, and to review all the many details through repeated listening that performers are too busy during a concert to notice, or have since forgotten. Recordings allow students to learn from their own performances, not just the performances of others. In addition, the recordings will be a reward for the hard work that goes into practicing and rehearsing, thereby increasing satisfaction and the likelihood of future effort. Live recordings will also become a key part of their professional portfolios, which they will need to be accepted for summer programs and graduate school, and to get work after graduating.

Music Media students will also study the recordings they make of live events, and compare them with those made by others in the same rooms, in order to practice microphone choice and placement, and to see how it affects the resulting quality of recording. They will use the experience of making these recordings, and later evaluating them, as part of the process of learning to get consistent results. The recordings will become part of their portfolios, which can be played for prospective future clients as examples of what they are capable of doing.

Streamed and downloaded recordings will provide students campus-wide opportunities to hear the variety of music performed in Angelle Hall, and be especially useful for the many students who take music appreciation classes as an arts elective. Streamed and downloaded recordings will increase the visibility and reputation of the University as a 21st century cultural and technical institution.

Projected lifetime of enhancement

The infrastructure connecting the Choral Room to the Recording Studio is expected to last twenty years. The rest of the system should be useful for at least ten years.

Person(s) responsible for

i. Implementation – Robert Willey, professor in Music Media division
ii. Installation – Robert Willey, graduate assistants, and Karl Fontenot
iii. Maintenance – Robert Willey
iv. Operation – Robert Willey, Music Media students, and student workers in Angelle Auditorium
d. Training (with qualifications) – Robert Willey, teacher of media classes

Budget Proposal

Equipment

Item number	quatity	unit price	total price
1. Barix Exstreamer 1000 Two units will be used to encode audio from the Auditorium and Recording Studio, the other to decode audio and feed into KRVS On-air system and/or streaming through NPR.	3	$ 950	$ 2850
2. Rackmount kit for Barix Mount the Barix units in a rack, making them more secure and easy to operate.	3	$ 140	$ 420
3. Breakout cables for Barix Allows connection of analog mixers with Barix.	3	$ 50	$ 150
4. Denon DN-F650R SD card recorder Rack mounted SD/USB card recorders. These units will be used to capture stereo mixes of concerts.	2	$ 730	$ 730
5. cables Connect mixers to recorders.	4	$ 30	$ 120

(continued on next page)

Item number	quatity	unit price	total price

6. D-Link network camera 1 $ 71 $ 71
   D-Link DCS-930L Internet Video camera, installed in Choral Room, to allow engineer in Recording Studio to see what is going on next door in the Choral Room performance space.

7. Patch bay 1 $ 320 $ 320
   Installed in Recording Studio, makes it easy to connect microphone signals coming from Choral Room to either the SD system or the Pro Tools system, or any other equipment that should be needed in the future.

8. Audio card 1 $ 400 $ 400
   Installed in a PC in KRVS, to take the signal coming from KRVS' Barix get it ready for transmission to NPR.

9. Epson V30 Scanner 1 $. 85 $ 85
   A scanner will be installed in the School's Resource Center, an open study lab, something that is presently lacking and needed for a variety of purposes by students for personal and class projects. For this project it will be used to scan programs, which will be placed in the archive along with recordings.

Software $ 0
None

Supplies $ 160
10. SD cards 8 $ 20 $ 160
    Media for recording in the Denon units.

Maintenance $ 0
None

Personnel $ 650
11. Install network drop 1 $ 500 $ 500
    Network connection in Auditorium Control Room, to put the signal coming from the Barix on the campus network, to be picked up at KRVS.
12. Re-wiring Recording Studio 10 $ 15 $ 150
    Hire an outside contractor to rewire the Recording Studio, integrating the existing Pro Tools system with the new SD card system and Barix.

TOTAL: $ 6,687

Previously funded STEP projects:

Multimedia Studio Development. Added video recording the Recording Studio.

Software for School of Music. Purchased software for Music Education Lab and studios where students do their homework.

Hearing Test Equipment. Funded equipment for hearing testing for student service and research, for joint projects with the Department of Communicative Disorders.

Recording Microphones. Used to record concerts in Ducrest-Gilfry Auditorium.

Server for the School of Music. An Apple server to distribute student work produced in the Music Education Lab and studios.

Music Production System. A Pro Tools system for a new studio used for students to do assignments for classes taught in Music Education Lab.

Performing and Live Recording System. A small public address system for groups to perform with and record events outside the Auditorium. The SD card recorder for the Recording Studio will be installed in this system, which stays in the Studio when not used for remote events.

Recording Studio Upgrade. Improving input and output.

CD Recording System for Auditorium. Record concerts on CD.

Resource Center Upgrade(s). Computers and software for study lab.

School of Music Pro Tools Recording System. Pro Tools system for Recording Studio.