

STEP Committee Technology Fee Application

Performing and Live Recording System

Robert Willey

School of Music

Signature of Gordon Brooks, Dean
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Title: Performing and Live Recording System Date: January 28, 2009

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ABSTRACT:

A portable sound system will be developed to support rehearsals and performances of ensembles in the School of Music. The system has two components, one for live performance, and the other for recording.

The rehearsal capabilities will include a mixer and 4-speaker monitor system. This will enable groups to incorporate new musical styles and technology, allowing students to connect their laptops, keyboards, and mp3 players to perform contemporary music using new techniques. The jazz combo program will utilize this equipment to update the repertoire and styles of music, which are presently limited to traditional styles, since no rehearsal amplification system is available. Students will learn to connect their equipment and monitors and set their own levels, helping them to prepare to work in the field after graduation.

The system will also support performance and live recording. The four monitor speakers will be used for the musicians on stage, and the output of the mixer sent to an amplifier and then two speakers on stands. Ensemble performances will be tighter due to the musicians having rehearsed with the system regularly with a consistent setup. This system will also simplify the process of making high quality audio recordings of rehearsals and concerts.

Description of Proposal

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

A portable sound system will be developed to support rehearsals and performances. The system has two components, one for live performance and the other for recording.

The rehearsal capabilities will include a mixer and 4-speaker monitor system. This will enable groups to incorporate new musical styles and technology, allowing students to connect their laptops, keyboards, and mp3 players to perform contemporary music using new techniques. When electronic equipment is used in an ensemble, monitor speakers must be used so that the drummer and rest of the group can hear what they need in order to synchronize. The jazz combo and guitar ensemble programs will utilize this equipment to update the repertoire and styles of music, which are presently limited to traditional styles since no rehearsal amplification system is available. Students will learn to connect their equipment and monitors and set their own levels, helping them to prepare them to perform contemporary styles after graduation.

We will integrate an existing tower computer (Apple G4) and performance software (Ableton Live, Max/MSP, and Logic Stage) in order to trigger loops, recordings, and display videos using the projection facilities in Angelle Hall auditorium and recital room.

The performance system will be of use to jazz students, Guitar Ensemble, the Jazz Ensemble, and three jazz combos. It would be a great resource for the MUS422 class (Live Sound and Digital Editing) in order to provide students with hands-on experience in setting up and mixing live sound for monitor mixes and main speakers. Currently that live sound component of that course is mostly theoretical. Having a live sound system will allow the curriculum to be changed to give students supervised experience during lab sessions and practical assigned outside projects.

The system will also support performance and live recording. The four monitor speakers will be used for the musicians on stage, and the output of the mixer sent to an amplifier and then two speakers on stands. Ensemble performances will be tighter due to the musicians having rehearsed with the system regularly with a consistent setup.

This system will also simplify the process of making high quality audio recordings of rehearsals and concerts. Rehearsals are usually not recorded, and many concerts missed because of lack of time to set up a recording system due to limited staff support. The School of Music received the donation of a portable multi-track hard drive recorder, but does not presently have a way to pre-amplify microphone cables, nor hear what is being recorded while the tracks are being laid down. This has limited the remote events we can record to what we can do in partnership with KRVS, which does live broadcasting of certain festivals. The mixer in the proposed system would be ideal for monitoring signals and levels, ensuring that a good mix can be done when the tracks are taken back to the studio for postproduction. This will make it possible to record all music ensembles and events that take place outside the auditorium, such as other locations on campus, conventions, and regional tours. Recordings provide vital feedback for musicians to evaluate their performance, and to develop a portfolio to use for promotional purposes.

b. Projected lifetime of enhancement

10 years

c. Responsible Person(s)

i. implementation

Dr. Willey and graduate student assistants will implement the grant.

ii. installation

Dr. Willey will install the equipment.

iii. maintenance

Dr. Willey and graduate assistants will maintain the equipment.

iv. operation

Students in the classes will operate the equipment and software.

v. training (with qualifications)

Dr. Willey is the teacher of Combo 3, and the recording and postproduction classes and is expert in the integration of live electronics with performance, and in audio production.

d. Detailed description of each budget category (*see attached spreadsheet with corresponding item numbers*)

Mixer – Each monitor speaker can have a separate mixer, allowing the drummer to hear more of the click track, the keyboard player more of themselves, etc. Microphones, electronic keyboards, microphones, laptops, and mp3 players, etc. will be connected to the mixer for monitoring, amplification, and recording.

Allen and Heath MixWizard - 16 channel mixer with 4 aux sends (*spreadsheet budget item 1*)

Outboard modules – audio processors connected to the mixer

Alesis 3630 compressor – used with drums and microphones to control dynamic range (*item 3*)

DBX231 – 31 band EQ – used to tune main speakers to venue (*item 4*)

Cases – to secure equipment and transport to rehearsals and performances on and off campus

Gator GRC – rolling rack for mixer, processors, recorder, and AC conditioner (*item 2*)

Rolling speaker bags – protect speakers and make it easier to carry them (*item 6*)

Monitor Speakers – used by performers to synchronize with keyboards and computer playback

VoiceSolo – 2 stand monitors for 1 or 2 musicians who are close to each other (*item 7*)

JBL Eon – 2 floor monitors to let up to 3 musicians hear (*item 5*)

Main Speakers – project mixed sound to audience

JBL Eon – 2 speakers (*item 5*)

Speaker stands – mount speakers to appropriate height for audience (*item 9*)

Cables – connect mixer to monitor and main speakers, and provide power to equipment
(*items 10-18*)

Audio recorder

Alesis HD24 – 24 track digital recorder. The School of Music obtained this through a donation. It will be connected to the output of the mixer, allowing rehearsals and concerts to be recorded, and then mixed in the recording studio.

Power conditioner – protect equipment from power surges (*item 19*)

Budget Proposal

Length of Implementation (in years)	1	2	3
1. Equipment	5,185		
2. Software	0		
3. Supplies	0		
4. Maintenance	0		
5. Personnel	0		
6. Others	0		
TOTAL:	\$5,185		

The School of Music will dedicate it's Alesis HD24 recorder to this system, which normally costs \$1,600. Microphones, cables, and stands from the jazz and music media programs will also be used in conjunction with the system.

Timeline

Spring 2009, purchase and install equipment in rack and portable cart. Begin to use for rehearsals, performances, rehearsals.

Fall 2009. Implement software and hardware resources in learning and performing contemporary music repertoire.

Previous STEP Grants

"Recording Studio Upgrade: Developing System Input and Output", 7/08, \$11,881, provided array of microphones to increase the number of tracks that can be recorded, and to experience how microphone selection and matching with preamp affect the sound.

"CD Recording System for Angelle Hall", 1/08, \$1,350. Stereo recording setup for auditorium.

"School of Music Resource Center Upgrade", 7/07, \$21,638.

"School of Music Pro Tools Recording System", 7/06, major renovation of recording studio facility creating professional 24-track digital audio recording system, \$41,338. Created Pro Tools HD recording system, which will be compatible with the proposed system in the current grant proposal.

"School of Music Resource Center Upgrade", 7/06, software to create web sites, piano instruction, software, wireless connectivity, administration software, ethernet cabling, Reason synthesis software, \$4,657.

"School of Music Resource Center Upgrade", 1/06, upgrade software and hardware, \$6,055.

"School of Music Resource Center Upgrade", 7/05, upgrade software and hardware, \$4,055

"Resource Center Upgrade", 1/04, upgrade workstations, server, video transfer, and DVD authoring, \$4,902.