2006-2007 Learning Technologies Grants Proposal

(COVER PAGE)

Project Information

Interactive MIDI Workstations for Class Piano and Music Technology Instruction
Project Title

Dr. Peter Jutras
Project Director

Hugh Hodgson School of Music
Requesting Department

$92,322 _
Amount Requested Year 1

$ 0
Amount Requested Year 2

Project Director's Signature

Proposal Endorsement Signatures

Department Head

Dean

Proposal Abstract (100-word maximum)

This proposal will install computer and digital piano based MIDI workstations with supporting instructional technology. These student workstations will be used daily as part of the core class piano curriculum, required of every undergraduate music major at UGA. Students will learn functional and practical applications of MIDI sequencing technology, notational software, and media storage and transfer – all essential skills in today's musical marketplace. This technology will also greatly enhance the delivery of class piano instruction, adding visual presentation, orchestral accompaniments, and electronic media. The workstations will also aid the development of creative skills such as composition and improvisation.

SECTION I: PROJECT DESCRIPTION

• Nature of the innovation

In the past two decades, the profession of education has witnessed the emergence and establishment of learning technologies that we now consider essential for our students' development. The use of word-processing, spreadsheets, web-based research, and graphic presentational software is now as common in the classroom as paper and pencil. In the fields of music production and music education, we have seen a similar emergence of music technologies. These MIDI (Musical Instrument Digital Interface) software and hardware technologies have recently added a great deal to the delivery of music instruction, and they have opened up creative music production possibilities for students. This proposal will implement these technologies in the University of Georgia's Hugh Hodgson School of Music in the following ways:

1) The addition of computers, MIDI software, and visual presentation technologies will help expand and enhance the instruction of class piano, an essential four semester core requirement for every music major. The current piano lab only facilitates ***aural*** teaching and learning, with no provisions for the visual presentation of material. The proposed technologies will help illustrate content visually and reach out to those students (an estimated 50-60% of the population) who are visually dominant in their learning style.

2) The addition of these workstations will allow every undergraduate music major the opportunity to experience, learn, and demonstrate facility with basic music technologies including MIDI data entry, sequencing, notational software, and accompaniment programs. These experiences will help provide students with a functional level of technological literacy that is essential in today's music marketplace.

3) These workstations and supporting technologies will provide graduate piano pedagogy majors with the opportunity to learn how to seamlessly integrate current technology into their everyday teaching. MIDI based digital piano labs are starting to become common in higher education institutions and independent studios, and pedagogues of the twenty-first century need to know how to implement these technologies.

4) Music is both a science and an art, and creativity plays a large role in the artistic development and maturity of our students. The addition of the proposed workstations would provide students with the opportunity to develop their creative skills through arranging, compositional, and improvisational projects. Each student workstation will include creative software for music and MIDI authoring and will allow students to create work that can be electronically stored and shared outside of the classroom.

This proposal will provide each class piano student with, for the first time, a full-size 88 key digital piano MIDI entry system, an i-Mac computer, MIDI based instructional software, and a desk providing an integrated workspace. Each student's digital piano MIDI station will be interfaced with their computer, allowing it to both receive and send MIDI data. Each computer will house software for accompaniment, arranging, sequencing, and music notation. The teacher's multimedia production station will include an enhanced digital piano and additional MIDI applications. Visual presentation equipment will allow for the illustration of instructional

content, and networking equipment will enhance classroom management and learning. An acoustic Disklavier® piano will allow students to seamlessly integrate these music technologies with performance on a traditional instrument, and students will be able to present and perform class projects on the school's 7 foot Disklavier Mark IV PRO® Concert Grand Piano. Finally, the physical expansion of the current teaching space will provide a more efficient learning environment, with better sight lines and space for the teacher to interact with individual students.

• Need/Rationale

The proposed technologies are an integral part of today's musical and media landscape, and students should have the opportunity to learn how to apply these technologies to their musical disciplines. This proposal provides an opportunity to extend these technologies to every undergraduate music major and provides valuable technological teaching experience to graduate pedagogy and education majors. In addition, this proposal provides technology that enhances instructional delivery and offers creative opportunities to students. The current digital piano lab does not provide any of these essential learning technologies, and it is housed in a cramped environment with little room for student-teacher interaction. In addition, the current lab is out of date and in poor repair, with much of the technology unsupported by manufacturers.

• Relevance of the project to unit and University priorities

In the National Association of School of Music (NASM) standards for all undergraduate music degrees, they state that students must acquire both a basic overview of how technology serves the field of music as a whole and a working knowledge of the technical developments applicable to their area of specialization. They go on to state that study and laboratory experience through existing courses are the primary means for obtaining this fundamental competence. The Hugh Hodgson School of Music and The Franklin College of Arts and Sciences have both expressed their commitment to demonstrate leadership in the innovative use of technology in the classroom. This project would help the School of Music meet important NASM standards, fulfill the mission of the Franklin College, and support the University-wide commitment to the implementation of innovative instructional technologies.

• Specific courses benefiting from this project

Class piano is an essential four-semester core requirement for every undergraduate music major at the Hugh Hodgson School of Music, making it a logical platform for delivery of music technology to all of our undergraduate students. The undergraduate courses that would benefit from this project include MUSI 2500 (Piano Class I), MUSI 2510 (Piano Class II), MUSIC 2520 (Piano Class III), MUSI 2530 (Piano Class IV), MUSI 2540 (Piano Class V), MUSI 2550 (Piano Class VI), and MUSI 3470 (Keyboard Musicianship). In addition, undergraduate and graduate piano pedagogy students would have the opportunity to learn the teaching applications of these technologies in MUSI 3460 (Piano Pedagogy I), MUSI 7520 (Graduate Piano Pedagogy I), and MUSI 7530 (Graduate Piano Pedagogy II).

• Number of students served

Potentially every undergraduate music major and all piano pedagogy students will benefit from the requested technology. Music minors and non-majors who elect to take class piano will also benefit from this technology. HHSOM typically offers 14 sections of class piano each semester. Estimated potential number of students served per year: 350.

SECTION II: BUDGET

• Technology, facilities, and other resources requested.

Equipment and software to provide every class piano student with an individual 88 key MIDI data entry station, a computer for MIDI applications, and a comfortable workspace. Instructional support materials to include a teacher multimedia production station and computer, a smart classroom projector, an interactive whiteboard, audio monitoring equipment, and a visual presenter. Facilities renovation to expand room 504 and allow space for 12 student workstations.

• Total proposed budget: $153,347 ($92,322 from LTG; $61,025 from HHSOM)

Item Requested	Qty	Unit Cost	Total Cost	Requested from LTG	Provided by Other Sources
Yamaha Laboratory Package – 12 Student MIDI Data Entry Stations (CLP230), 1 Multimedia Production Teacher Station (CVP 305), 1 LC2 Audio Routing and Management System with Expansion Pack	1	$ 32,455	$ 32,455	$ 32,455	$ 0
Yamaha Disklavier DU1A - Classroom Multimedia Piano	1	$16,000	$ 16,000	$ 16,000	$ 0
Yamaha Disklavier DC6M4PRO Performance Multimedia Piano	1	$41,025	$ 41,025	$ 0	$ 41,025
Wenger 1252210 Workstations	13	$ 650	$ 8,450	$ 8,450	$ 0
Apple i-Macs, 2.0Ghz 17”	12	$ 1,218	$ 14,616	$ 14,616	$ 0
Apple Mac Pro, 2 2.66Ghz, 23”	1	$ 3,255	$ 3,255	$ 3,255	$ 0
Logic Express 7.2	12	$ 99	$ 1,188	$ 1,188	$ 0
Band-In-A-Box	12	$ 88	$ 1,056	$ 1,056	$ 0
Home Concert	1	$ 1,003	$ 1,003	$ 1,003	$ 0
Finale 2007 Site License	56	$ 60	$ 3,360	$ 3,360	$ 0
Logic Pro 7.2	1	$ 299	$ 299	$ 299	$ 0
Band-In-A-Box Pro	1	$ 189	$ 189	$ 189	$ 0
Epson 830p Projector	1	$ 2,448	$ 2,448	$ 2,448	$ 0
ELPMB36 Mount	1	$ 170	$ 170	$ 170	$ 0
Smartboard SBC690	1	$ 2,999	$ 2,999	$ 2,999	$ 0
Samsung SDP-950DX	1	$ 2,499	$ 2,499	$ 2,499	$ 0
Tannoy P8 Monitors	2	$ 499	$ 998	$ 998	$ 0
Onkyo TX-SR703B	1	$ 539	$ 539	$ 539	$ 0
Sony DVPNC85HB	1	$ 249	$ 249	$ 249	$ 0
Facility Renovation – Relocate 504 Wall	1	$20,549	$ 20,549	$ 549	$ 20,000
		TOTALS	**$153,347**	**$ 92,322**	**$ 61,025**

• Budget justification narration

This project provides a unique opportunity to achieve multiple goals: deliver music technology and experience to all undergraduate music majors, enhance class piano instruction and delivery, and instruct pedagogy majors in the implementation of technology in teaching. Pairing these music technologies with the class piano program which reaches all music majors is a cost effective way of delivering this technology to the maximum number of students.

The Hugh Hodgson School of Music has already made a significant financial commitment to the implementation and everyday use of these technologies through its $41,025 purchase of a Yamaha Disklavier® DCM4PRO Concert Piano in the Roger and Phyllis Dancz Center for New Music. This instrument will be used by class piano students in the performance and presentation of major class projects. In addition to the purchase of this instrument, the HHSOM has pledged $10,000 to the facility renovations necessary. An additional $10,000 for facility renovation has been secured through the Office of the Vice President for Research, covering nearly the entire cost of this phase of the project. Startup funding has already provided much of the instructional technology and software to the Class Piano Coordinator's private studio. HHSOM has also committed considerable capital resources in recent years to 3 technology labs (MERL, MUTEC, and CAI), and the use of the proposed technologies in the class piano curriculum will support the activities and projects undertaken in those facilities.

The current Class Piano Coordinator (Dr. Peter Jutras) has experience and knowledge in the application of these technologies and can put them to maximum use in developing a state of the art class piano curriculum. Dr. Jutras is also prepared to provide technical and maintenance support to the lab and these new technologies. These technologies can also pave the way for future music technology courses, which will undoubtedly become a core component for future music degree programs.

• Projected Timeline

Date (mm/yy)	Objective	Person(s) Responsible
12/06	Schedule consultation.	Peter Jutras
1/07	On-site consultation with Yamaha to determine optimal lab layout.	Peter Jutras, Mike Bates (Yamaha Corp)
3/07	Order equipment, schedule renovation.	Peter Jutras
5/07	Begin facilities renovation when classes end.	Peter Jutras, Doug Moore
6/07	Install and troubleshoot equipment.	Peter Jutras, Doug Moore, Mike Bates
8/07	Training sessions with Graduate Teaching Assistants in use of lab	Peter Jutras
8/07	Begin using lab for everyday class piano and piano pedagogy instruction	Peter Jutras
12/07	Evaluate and assess success of 1st semester of lab instruction, modify curricula and training as necessary	Peter Jutras
Future Semesters	Add components of music technology instruction to curriculum as advised by Technology Committee and HHSOM faculty.	Peter Jutras, HHSOM Technology Committee, HHSOM Faculty

SECTION III: LEARNING OUTCOMES

• Learning outcomes and how resources will be used to achieve these outcomes.

It is expected that the undergraduate students who will use these technologies as part of their class piano studies will achieve the following outcomes:

A. Class Piano Outcomes

1) Students will gain an enhanced ability to perform piano exercises, accompaniments, and solo repertoire through the use of accompaniment and arranging software.
2) Students will be able to see visual representation of the class piano content, enhancing the learning experience for visually oriented learners.
3) Students will demonstrate the ability to use their piano skills for basic data input into MIDI based systems.
4) Students will have enhanced opportunities for composition and improvisation through the creative aspects of the MIDI software.
5) Students will demonstrate the ability to archive and share their class piano projects

B. MIDI Technology Outcomes

1) Students will demonstrate the ability to use MIDI input and computer software to create complete musical accompaniments and arrangements.
2) Students will demonstrate the ability to create MIDI sequences, and arrangements.
3) Students will demonstrate the ability to create professional scores using MIDI input and notational software.
4) Students will demonstrate the ability to record and preserve their own compositions and performances using MIDI software.
5) Students will demonstrate the ability to archive and communicate these projects via a variety of useable formats, including MIDI files, audio files, and MP3 files.

C. Piano Pedagogy Outcomes

1) Graduate Teaching Assistants will learn how to deliver instructional content via these technologies and integrate technology into a traditional curriculum.
2) Piano Pedagogy students will have the opportunity to learn how to integrate these technologies into both group and private teaching settings.

• Methods for evaluating the project and learning outcomes

1) Class piano students will prepare and submit a number of technologically based assignments, which will be evaluated by both the graduate teaching assistants and the Class Piano Coordinator. Faculty from other departments such as Theory, Music Therapy, and Music Education will be invited to evaluate discipline specific projects.

2) Piano pedagogy students will submit videotapes of teaching projects and demonstrations utilizing the workstations in group and private instruction, and these videotapes will be evaluated by the Piano Pedagogy Coordinator.

3) Graduate teaching assistants will be observed by the Class Piano Coordinator, and their implementation of the technology will be an important criteria for evaluation.

4) All students, including undergraduate class piano students, graduate piano pedagogy students, and community music school students will be surveyed for opinions on the

effectiveness and usefulness of both the workstations and the supporting technology. This data will be collected and evaluated by the Class Piano Coordinator.

5) Other faculty members and departments in the HHSOM will be invited to use the lab for special classes and projects, and they will be asked to provide feedback on the technology.

• Potential applications in other academic areas

While the use of this technology will reach all undergraduate music majors, it need not be limited to this population. These technologies and the class piano lab can be made available for instruction that could benefit many areas in the school of music, including but not limited to the areas of Music Education (learning teaching applications of technology), Music Therapy (using technology to deliver music to special populations), Music Theory, and Music Composition (using notational software and creative applications to enhance composition). This lab is also used by students (both pre-college and adults) in the Community Music School, and the additional of this technology would provide a good source of outreach from the University to the community at large. Once this project is implemented, the School of Music will evaluate the practicality of securing identical equipment for a second lab, which could further serve the University community through the addition of piano and music technology classes for non-music majors.

SECTION IV: SUPPORT PLAN

• Staffing and resources to be used to continue the initiative following the LTG funding.

1) The Class Piano Coordinator is experienced in the implementation of all of these technologies, and he will continue to support the maintenance of the lab and its use in the class piano teaching curriculum. In addition, he will continue to explore new and innovative ways to apply this technology to practical teaching problems and settings.

2) The HHSOM will provide funding for maintenance, support, and necessary upgrades to the software applications used in the lab.

3) The Class Piano Coordinator will continue to work with Yamaha Corporation to ensure that the hardware in the lab is maintained and current. Yamaha Corporation has a strong interest in establishing an innovative lab at UGA, and they have verbally expressed their support to the lab's long-term maintenance and usefulness.

4) The Class Piano Coordinator will continue to train Graduate Teaching Assistants and any other interested HHSOM faculty in the use and implementation of the lab technologies.

5) A goal of this project would be the development of a new music technology course and/or program of study that could take further advantage of the teaching opportunities provided by these workstations and increase and enhance the technology provided for both students and teachers in the HHSOM.