ATMI 2004 Conference Abstracts

Creating a Web Environment for a Music Technology Course in a Liberal Arts Setting

Jonathan Graber, *Allegheny College*

Joaquin Acuna, *Allegheny College*

Through a tour of our web site and a discussion as to how it was created, we hope to help those working in a liberal arts environment: (1) create such a site; and (2) over- come any trepidation on their part, or on the part of students, with the technology itself.

Multi-Media music project: Building bridges between visual skills and musical skills

Jason Chen Chi Wai, *Hong Kong Institute of Education*

When teaching scoring for computer animation, there is a tendency to emphasis the technological tools rather than the integration of visual skills and musical skills. A profile of the professional studies – Creative Multi-Media music project at the Hong Kong Institute of Education illustrates a pedagogical approach that associates the visual image with a storyboard as a stimulus to the student's compositional skills. This approach can enhance the student's ability of coordinating the visual brain and the musical brain in this project. The underlying concepts and strategies of this approach, including course design and assessment, will be presented as well as examples drawn from the portfolio of student work.

Enriching the Music Appreciation Experience through a New Web Application in a Laptop Classroom Setting

Dr. Andrew Levin, *Performing Arts, Clemson University*

Dr. Roy Pargas, *Computer Science, Clemson University*

Music Appreciation is traditionally taught as a straight lecture course in which the "instructor as expert" plays music and then explains it, pointing out what students might otherwise have missed. At the other extreme, just soliciting students' reactions to music typically yields quick, emotional responses that bear little relationship to the actual content of the music. For genuine learning, students must listen actively and participate in the discovery of the music. Laptops and certain web applications make this possible. During class students listen individually to designated selections from larger works. Supplied with interpretive and analytical questions to answer, students then discuss the music in their groups (replaying it as needed), then post their responses to the web. The teacher can then review their comments, making changes as need be; the entire page is then archived for later student access.

Incorporating Digital Audio Sequencing into Musicianship Classes

Brian Post, *Humboldt State University*

This presentation will provide a nuts and bolts approach to incorporating multi-track digital

audio sequencing into a college level sight singing\musicianship curriculum. Topics will include available software, required hardware and logistical requirements.

Interactive Performance with Ableton Live

George J.Hess, *Central Michigan University*

Jonathon Nichol, *Central Michigan University*

Ableton Live is a loop-based digital audio sequencer designed for live performance. The clinicians will play pieces using Live as a real-time interactive performance tool. During the performances, participants will be able to see how the program operates, followed by an explanation of the basic techniques used.

A Collaborative Approach to Building Information and Technology Literacy into the First Year Experience

Julianne M. Miranda, *DePauw University*

With technology becoming increasingly pervasive and more important to our education, there is a clearly definable need to establish a standard program of competency for our students. In an effort to address technology and information literacy needs, one institution developed a joint approach to training. Using the First Year Seminar as the cornerstone of instruction, faculty members in collaboration with an instructional technologist and music librarian, offer a unique curriculum for music majors. In a shared learning environment, students not only experience the concepts of music through the diverse perspectives of several faculty members, they also begin building core technology and information literacy competencies that will continue to grow throughout their undergraduate experience.

Developing the Student Composer Through and With Multimedia

Brian R. Moore, *University of Nebraska-Lincoln*

During the Fall 2003 semester, the University of Nebraska School of Music and New Media Center was engaged in a project working with high school students to enable them to compose their own original music. This music then became the basis for "music videos" and ultimately a class DVD. All of this was accomplished with students who began the project with virtually no music reading ability. The primary goal of this project was two-fold: (1) Develop the process and product of music composition by students with little formal training in music or technology and (2) use curricular strategies to bring together software and hardware technologies from various manufactures in a way that integrates their use. The second phrase of this project involves refining the instructional strategies and activities while developing software tools to accomplish all of this in the most effective manner. This will take place during April 2004 (with undergraduate music education majors) and Fall 2005 (same high school, new set of students).

Music Notation for Advanced Applications

Dr. Daniel R. Zanutto, California State University-Long Beach

Learn about special features in the Sibelius notation program to make your college-level teaching and desktop publishing easier. Create sophisticated and dynamic Schenkerian Analysis, Early Music notation, or easily customize worksheets and test materials that provide playback and hidden harmonic realization features.

Constructive and Reconstructive Projects Using Music Notation Software

C. Floyd Richmond, *Valley Forge Christian College*

This presentation will include approximately twenty formal and musical concepts which can be taught through the use of notation software. The concepts are designed to encourage higher order thinking by students about music. Each lesson contains constructive, reconstructive and creative activities. This session is appropriate for those teaching music fundamentals, theory, appreciation, and methods classes.

An Investigation into the Ability of Pre-service Music Educators to Integrate Technologies from a Constructivist Approach

Dr. Douglas C. Orzolek, *University of St Thomas, St. Paul, Minnesota*

This study investigated the ability of pre-service music educators to integrate technology as a learning tool within their lesson plans written for a secondary general music methods course. As the foundation of the course rests within the constructivist approach, the goal for the students is to consider technology in a non-traditional approach – one which students learn *with* technology rather than *about* or *from* technology (Jonassen, 2000). While this study is only in it's early stages, preliminary findings suggest that pre-service music educators, regardless of their perceived skills, can develop lesson plans that meet these goals. And, most importantly, they expressed a sincere interest in adapting more technology into the music education that they plan to provide.

A Survey of Music Student Use of Institution Provided Laptops for Music Specific Software

Jane M. Kuehne, *Hartwick College*

The purpose of the study is to determine the extent to which music students on laptop campuses use their school provided computers for music application. Secondary purposes include determining whether or not students feel proficient using the standard provided software, how frequently students would use music specific software if it were provided by their college or university, and how comfortable students would feel learning the software without the structure of a classroom. Answers to the following questions were sought: (1) Are students on laptop campuses using their provided laptops for more than basic processing needs (word processing, email, instant messaging, web exploration)? (2) What software is typically included on the provided computer? (4) How proficient do music students feel they are using the provided software? (5) If music software was provided by the school, what software types would be desired by music students? (6) If music software was provided, how comfortable would they feel learning the software without the structure of a classroom? Respondents were music students from two different campuses in different states who completed and submitted an online survey.

The Surround Experience: Teaching Form and Content Through Multimedia

Mark Spraggins, *California Lutheran University*

This paper presents the results of an experimental multimedia course in which small groups of students created short works for 3 synchronized videos and 5-channel surround sound. An overview of the techniques used to create and view the works will be discussed, along with strategies for stimulating the creation of rich content. Select excerpts from actual projects will be shown (compiled onto a single screen).

Audio for Video: Exploring *Final Cut Pro*

Bruce H. Frazier, *Western Carolina University*

A beginner's tutorial for recording, editing, processing and mixing audio for digital movies using Apple's *Final Cut Pro* digital video software. Topics in this demonstration session include audio capture, importing audio, basic audio editing techniques, adding audio transitions, applying plug ins, mixing multiple tracks of audio, synchronizing audio with video, and exporting the completed movie. A brief demonstration of Apple's *Soundtrack* music production software is included in the presentation.

OnMusic Fundamentals: An Integrated, Web-Based, Distributed Learning Approach to Teaching Music Fundamentals

Carlos Maldonado, *Connect For Education*

The integration of Internet, CD ROM (Compact Disc Read Only Memory), and interactive web-based animation and database technologies, makes it possible, for the first time, to offer web-based, distributed Music Fundamental courses to a remote audience in a cost-efficient, time-saving, interactive, learner-centered, customizable manner. Researchers have cited major advantages of web-based learning: (a) Access to content and communication tools is available anytime, anywhere, from any computer connected to the Internet, (b) Per-student equipment and administrative costs are greatly reduced in comparison to campus-based courses, (c) Object-oriented architecture supports on-demand, personalized self-paced learning, and customization of courses, and d) Course content is easily updated and maintained. OnMusic Fundamentals is a web-based course that teaches the basic rudiments of music in an integrated, concise, customizable, contextualized, student-centered, interactive manner, as opposed to the linear, rote-learning, hard-coded or paper-based, one-size-fits-all system traditionally used in conventional approaches.

Vigor, Rigor, and Finding the Trigger in a Music Theory Blackboard Site

Cynthia McGregor, *Southwestern College*

Technology has become an invaluable learning tool for the college student. Uploading documents to a website provides our students with 24-hour access to course material. Yet a website can offer so much more than merely a blackboard in which we post our pre-made materials. Websites with user-interactivity take the learning process to a more profound and

significant level of understanding, especially when this interactivity includes questions, answers, and feedback based on the decisions made by the student. Technology can thus be used as a pedagogical tool, engaging students to make decisions and learn from their actions. This paper addresses how a website's design and interactivity play an essential role in learning, as well as how to approach constructing and managing an effective website.

The Effects of E-Portfolios Assessment on Student Piano Performance Achievement and Attitude

Cynthia Benson, *Bowling Green State University, Bowling Green OH*

The purpose of this study was to investigate the effects of electronic portfolio assessment on student piano performance achievement and attitude. The electronic poster will include examples of student e-portfolios, results of the comparison of teacher and student evaluations, and student responses to a questionnaire regarding their perceptions of e-portfolio assessment. The successes and challenges of using video technology for student e-portfolios to evaluate performance skills will also be addressed.

EPOSTER--ePortfolios and laptop technology in Performing Arts Curriculum

Dr. Linda Dzuris, *Clemson University*

Laptop technology is here and becoming a requirement for many incoming classes of various disciplines on campuses and even entire universities. This electronic poster session focuses on one music department's implementation of this new technology with an incoming freshman class of performing arts majors. Specifically, the session will showcase discipline-specific ePortfolios (also commonly called digital portfolios).

EPOSTER--Active Listening Tools: Musical Style Comparisons and Quizzes

Thomas Smialek, *Penn State University*, *Hazelton*

Active Listening Tools, published by Wadsworth/Thomson Learning for use with Craig Wright's music appreciation text Listening to Music, is a set of interactive software modules for Windows and Macintosh computers that students can download from the book's home page. Active Listening Tools' Musical Style Comparisons and Quizzes improve listening and critical thinking skills as students identify patterns of musical elements that reveal a piece's style period, genre, and composer. The Checklist of Musical Style Periods displays comparisons of three consecutive style periods. In each style period's column, characteristic traits of its melody, harmony, rhythm, tone color, and texture are listed. Students can also hear a representative example of an element's use in a particular style period. Students can compare the pattern of elements between style periods, or trace the evolution of a single element across style periods. The module's Musical Style Quizzes give students practice in distinguishing between various musical historical style periods. Students first play a brief musical excerpt from one of two successive style periods. They must then identify the qualities of a number of musical elements, to hone their music perception skills. Students must next employ critical thinking skills to determine the selection's style period, compositional genre, and composer from the pattern of elements heard.

Electronic Portfolio Development for Pre-Service Music Educators: Effecting Growth through Reflective Practice

Kristen A. Albert, *West Chester University*

Electronic Portfolios will be defined and models presented that incorporate reflective practice as a vital component in the development of pre-service music educators. Actual student portfolios will be presented.

The TIME Machine: a Futuristic Approach to Interactive Multimedia Web-based Instruction in Music

David Sebald, *University of Texas at San Antonio*

By combining Flash MX 2004 Pro with CGI, the presenter is developing highly interactive, engaging web-based music instruction packages. The template delivery system provides an alternative to commercial systems like WebCT and Blackboard and includes many features not available in these packages. The presenter demonstrates how he developed an alternative distance-learning system using basic, off-the-shelf software and hardware. The TIME Machine delivers highly interactive web-based instruction featuring video, audio, narration, graphics, photos, workable models, and virtual environments that would be impractical under proprietary systems like WebCT and Blackboard. Based on programmed learning principles, the TIME Machine's tutorials encourage students to manipulate every concept in either a linear or non-linear progression. It tracks students' progress with every interaction.

http://multimedia.utsa.edu/timemachine http://www.utsa.edu/today/2004/03/sebald.cfm

Finale and Sibelius: a Comparative Workshop

Rocky Reuter, *Capital University*

Experts from the companies selling *Sibelius* and *Finale* will be asked to guide workshop participants through a series of tasks that are identical for each program. The intent will be to provide participants with one means to make direct comparisons between the two programs. No effort will be made to attempt a complete overview of the two programs. Rather the somewhat detailed instruction related to some common tasks will serve to highlight similarities and difference between the programs.

Friday, 5 November (Lab--Room 1)

Placement Testing–Put it On-Line

Cynthia I. Gonzales, *Texas State University, San Marcos TX*

An On-Line Music Theory Placement Exam is a successful alternative to the traditional pre-registration ritual of pencil-and paper tests followed by a grading frenzy to post the results. Created in the Blackboard learning environment, the on-line music theory placement exam modeled in this presentation has been used successfully with three entering classes of music majors and minors. No students have complained that they were placed into a course either too

difficult or too remedial, thereby demonstrating the effectiveness of this on-line placement exam. During this presentation, the on-line exam will be viewed. Topics include transferring a paper-and-pencil test to the web, creating an effective test, assessing test results, and administering an on-line placement exam.

Video Conferencing for the Rest of Us!

William I. Bauer, *Case Western Reserve University*

Sam Reese, *University of Illinois at Urbana-Champaign*

Until recently, video conferencing over the Internet was a major undertaking requiring expensive, highly specialized software, hardware, and facilities. However, the minimum requirements for good quality interactive audio-video over the Internet have begun to drastically change. In 2003, Apple Computer introduced an inexpensive, firewire-based, video camera called the *iSight* that works with any Macintosh computer that has at least a 600MHz G3 processor. When used in conjunction with Apple's *iChat* software, the user is able to engage in high quality audio-video "chatting" over an Internet connection with a bandwidth as little as 100 Kbps. In early 2004, Apple added support to enable Wintel computers to also utilize this technology. This session will provide an overview of the technical requirements for using *iSight* and *iChat* , and also discuss the educational implications they suggest. Ways in which the presenters have used the technology with university students, along with some pedagogical guidelines that have begun to evolve, will be described.

Using Flash to develop interactive listening guides for online distribution

Scott D. Lipscomb, *Northwestern University School of Music*

Marc Jacoby, *VanderCook College of Music*

This presentation will demonstrate and compare two methods of creating interactive listening guides within Flash. The first and easiest method is to use the „stream‰ sync option for a sound file that has been imported into the movie's library. This option allows a designer to click and drag the playback head in the timeline area of flash to hear the sound file and identify important events in the musical sound. After applying frame labels to these locations, the visual aspect can be constructed so that it is carefully synchronized with the musical sound. The second method utilizes the „Sound‰ object and ActionScript to control playback of a chosen musical composition and navigate from place to place within the digital audio file. Finally, the presenter will demonstrate a tool developed within Flash for the purpose of facilitating the creation of such listening guides. Using the „Sound‰ object approach, this Flash movie consists of two parts: a „developer‰ frame where marker points are identified and a „player‰ frame where a user can interact with the listening guide. Copies of this Flash movie will be made freely available to interested attendees for their own use.

Implementing Technical Support for Live Videostreaming and Internet-based Videoconferencing using Multi-Media for Music Teaching

Fred J. Rees, *Indiana University School of Music at IUPUI*

Kenneth H. Smith, *Indiana University School of Music at IUPUI*

This session demonstrates four levels of technical service for videostreaming and videoconferencing music lessons live over the Internet. It reflects the interdependency and collaboration between technical staff and the music instructor, an academic or collegiate IT unit's resources for transmitting multi-mediated instructional information, and enhanced online interaction between teacher and student and student and student. This is a live demonstration over the Internet.

Student Music Technology Goes Mobile

David B. Williams, *Illinois State University*

Peter R. Webster, *Northwestern University*

Session I--Student Music Technology Goes Mobile: A Vision for the Future **Session II**--Student Music Technology Goes Mobile: Issues and Resolutions

A two-session presentation offering a vision of a student-owned music computing model that puts basic music software capabilities in the hands of every music student in higher education, supported by a redefined role of the music lab as a support center for student laptops and high-end music applications. Session 1 will describe the model, its scope, and implementation. Session 2 will analyze the model for its strengths and weakness, impediments to implementation, and end with resolutions for paving the way to its possible success in the future. Participates will provide comments and questions in Session 1 for use in Session 2.

Software and Hardware Instruments in a Networked Music Lab

Lee Whitmore, *Soundtree*

In this hands-on session Dr. Lee Whitmore will explore current trends for instruction, composing and performance in a networked music lab. Projects and instructional techniques for integrating hardware and software instruments with computers will be explored through desktop music production tools. The demonstration lab will be fully-networked with an audio controller for group instruction.

Hands on Training with GarageBand and SoundTrack

Raymond Riley, *Alma College*

Get an in-depth look at the comprehensive line of Apple software solutions for music and audio – GarageBand, Soundtrack, and Logic. This session will help you to identify the particular needs of your institution, and which application will work best within your curriculum. Topics such as training and certification will be also be addressed, illustrating the benefits of the Apple Pro Training series and the new Apple Authorized Training Center for Education program.

Simple Sampling and Synthesis Techniques for the Educator

David Dvorin, *Apple Computer, Inc.*

Get a hands-on introduction to using software samplers and synthesizers. Learn elementary

techniques that allow you to utilize these instruments in a lab setting, such as configuration, sample loading, sample/sound creation, keyboard mapping, modulation and looping.

An Internet Music Theory Database

Timothy Cutler, *Austin College*

Young music theory teachers spend a great deal of time finding appropriate examples for their courses in tonal theory. Currently, there are few resources that offer help. To remedy this situation, the Internet Music Theory Database (the first of its kind) is an ongoing project that intends to offer teachers and students a resource for tonal harmonic and contrapuntal techniques. Each chapter will consist of score excerpts and sound files that illustrate both typical and unusual examples of a particular technique. Eventually, those in the music theory and music education communities will be asked to contribute their own favorite examples. Thus, the database will be an ever-growing resource for music teachers and students.

Lucid Dream Ensemble: A Laboratory of Discovery in the Age of Convergence

Dr. Virgil Moorefield, *Northwestern University*

Jeffrey Weeter, *Northwestern University*

The paper describes the formation and deployment of a digital arts performing ensemble in the context of a music technology program at a university. A model of higher education through a collaborative process of creative activity involving technology is described. Our "Laboratory of Discovery" approach brings together faculty, graduate students, and undergraduates to work with new technologies, and exchange ideas with the goal of devising new approaches to technology-based performance. The group provides a vehicle for practical and creative applications of classroom knowledge, and projects the identity of the program beyond campus. We describe the development of the ensemble from a group that used commercial software to reproduce written music into a digital arts ensemble that performs original work exclusively, and incorporates advanced tools for real-time audio and image processing. Performances have ranged from sonification of a feature-length movie from the Silent Age, to appearances at festivals and conferences. We investigate the process of making connections between disciplines, especially considering the possibilities offered by current trends of technological convergence in the context of composed audio-visual improvisation (comprovisation). Strategies of social organization (distribution of tasks, communication between workgroups) as well as production (studio-based versus performance-based) are discussed, with brief examples.

THE MUSE PROJECT: An Online, Customized Entrance Placement Exam for Music Theory

Dr. Jennifer Sterling, *IUPUI*

Dr. Susan Piagentini, *Northwestern University*

The use of entrance placement exams in music theory is a growing trend among colleges and universities across the country. This is in response to a student pool with varying levels of

experience before entering our programs, based on the AP Music Theory exam and other courses currently available to high school students. The presentation will introduce a new on-line, menu based, customized placement exam. The on-line exam was developed using data from an SBC Faculty Fellows Grant, studying the placement exam information from over 40 institutions of various sizes and diverse geographical locations. Professors can control appearance of the web page, including schools colors, logo and address. The instructor selects the numbers and categories of questions, difficulty levels of examples, timings for each question, and number of hearings for aural examples. The on-line format enables instructors to receive immediate test results via email. Students may see results upon completion of the test, including percentages of strengths and weaknesses in categories, and receive registration information as determined by the instructor. The test includes randomly selected questions from a database of each category. Questions are multiple choice, using radio buttons for answer input. The musical examples used are .gif files; the audio uses an embedded RealAudio play controller. The test will be available in multiple formats: as an on-line authoring tool for instructors; as a review application for students; and as printed format for those who prefer written exams. The "do-it-yourself" web platform with ready-made, cutting edge technology will streamline the process of developing an exam. It will save the instructor numerous hours in planning time, as the musical examples and formatting are complete. They can create a personalized site for their program with the click of a mouse regardless of their own technical skills. The future of the site will expand to enable instructors to input their own musical examples as .gif files, and midi files for listening examples. With some monitoring and site membership, this could prove to be an invaluable resource for instructors across the country to share ideas, compare their program to other similar schools, and raise the level of skill expectations in their own program.

The Access Grid as a Tool for Music Education and Performance

Scott Deal, *University of Alaska, Fairbanks*

Paul Mercer, *University of Alaska, Fairbanks*

The Access Grid (AG) is a collective of resources representing the next generation of distance-delivery technology, enabling users to participate and interact from numerous audio-visual sites around the world. Art on the Grid is a group of professional visual and performing artists who are affiliates at participating AG institutions. This paper examines two recent Art on the Grid events. The first took place in March 2004, when Valerie Naranjo, Percussionist for the Saturday Night Live Band and Percussion Arranger for the Broadway production of The Lion King, presented a clinic to 26 Access Grid sites, spanning Alaska to England. The second event occurred in April 2004 when Art on the Grid presented a multi-media performance titled InterPlay: Hallucinations, which utilized performing and visual arts elements from several sites across the United States. Actors performed from the University of Utah in Salt Lake City, music and graphics were sent from University of Alaska Fairbanks, and live dance and graphics came from University of Maryland College Park. The presentation will include discussion on highlights, lessons learned, and future projects.

Using What's On Hand: Internet-Based Testing in an Introductory General Music Course

Thomas Smialek, *Penn State University*

When my university shortened fall semester by one week, I considered using Internet-based testing in my non-major Introduction to Western Music course as an alternative to expending already-limited class time on student evaluation. Although I usually develop my own courseware, I decided to see if an existing program could meet my needs. My university's Testing Services recommended ClearLearning's TestPilot, a web-based application for the creation of online assessments and surveys. My presentation will demonstrate how I utilized TestPilot's capabilities to create effective test instruments that are secure and provide detailed reports of student results. Composition of a course test bank required a single investment of time. I created multiple versions of each test, which can be activated at various times during a testing period to ensure security. TestPilot enables me to customize each student's test by scrambling questions within a test section; a number of questions can also be chosen randomly from a larger group. For listening tests, I digitize and compress audio files, then import them into TestPilot. Unlike in-class tests, students can hear listening selections an unlimited number of times. After perceiving a piece's salient musical characteristics, students then draw conclusions on its musical style, composer, and genre. Students now take two of the course's four required tests online in a secure, proctored environment at the campus Teaching and Learning Resource Center. Once the testing period concludes, students can review their answers and replay audio listening selections. TestPilot provides a variety of reports of assessment data, helping me to construct more effective (and valid) tests and to discern which topics are not being effectively taught or learned.

Music as Embodied Mathematics: Multiple Representations In A New, Cross-platform, Web-accessible Application

Jeanne Bamberger, *Massachusetts Institute of Technology*

Andrea diSessa, *University of California, Berkeley*

Drawing on experience with students working in a new software music/math environment, we illustrate the role of multiple representations, multi-media, and the use of multiple sensory modalities in eliciting and developing students' initially implicit knowledge of music and its inherent mathematics. Students' inquiry into the bases for their perceptions of musical coherence provides a path into the mathematics of ratio, proportion, fractions, and common multiples while also helping to account for ways in which music creates coherence and emotional response. In keeping with our basic hypotheses, we propose that students may robustly learn formal relations involved when they are able to coordinate their active perceptual strategies around a "formal" representational scheme that includes features sufficiently shared by both, such as the cross-modal interactive computer representations we have developed.

Online Learning in Support of Music Teacher Preparation

Daniel Newsom, *Berklee College of Music*

In 2000, Berklee College of Music was awarded a three-year, $1 million dollar grant from the U.S. Department of Education under its Preparing Tomorrow's Teachers to Use Technology (PT3) grant program. During the grant period, Berklee music education faculty developed websites to provide online enhancement of the materials delivered in class by the instructor. This presentation features a demonstration of these websites and a discussion of how they are used,

lessons learned from the development and integration processes, their effectiveness, and implications for the role of online instruction in music teacher training.

Starting Your Own GarageBand

Ronald A. Hemmel, *Westminster Choir College of Rider University*

In January of 2004, Apple released a new program as part of its iLife suite of applications. GarageBand combines loop-based composition, MIDI-triggered internal instrument sounds and digital recording of live performers in a very accessible, very inexpensive program. In this session, the basics of the program will be explained and explored. Students, schools and instructors who are not yet ready for the expense or complication of major computer music software programs may find GarageBand to be just what they're looking for. If you have ears and can click a mouse, you're ready to start making music with this program.

Software Synthesizers and Samplers: What are They, Why Would You Use One, and What Do You Need to Know to Make a Purchase Decision?

Charles Menoche, *Central Connecticut University*

While software synthesis was first developed in the late 1950s, only recently has the technology progressed such that it now reaches the average musician's desktop or laptop computer. In the last two years, easy-to-use music synthesis and sampler applications have become the fastest growing area of development in the music software industry, augmenting or completely replacing traditional external hardware. This presentation will give an overview of many current software synthesizers and samplers, help attendees become familiar with standard terminology, suggest criteria for selecting an appropriate product, and end with a demonstration of representative software synthesis applications.

Using Video for Student Assessment in Music Education

Sara Hagen, *Valley City State University*

This session will demonstrate the use of video in student assessment of teaching lessons in secondary general music education. Students were videotaped teaching a prepared lesson, which were then transferred to their laptop computers using Studio 8 software. Students prepared a "real time" evaluation of their teaching by adding title slides or voice-overs. Assessments include the teacher-feedback-teacher loop, approval/disapproval, and general creativity and appropriateness in planning. Reflective statements are included following each student example.

Five Successful Examples of Technology in K-12 Music Classrooms

Lee Whitmore, *Soundtree*

This session evidences five exemplary music programs, elementary, secondary and collegiate, where technology is successfully applied. Sample lesson plans and student projects, and correlations to national "Standards" and "Strategies" are included.

Who Needs Another Loop-Based Program?: Creativity and Workflow with Apple's Soundtrack

Raymond Riley, *Alma College*

This presentation takes a close look at Apple's Soundtrack, and demonstrates the rich feature set while exploring along the way some ideas for integrating this powerful application in the music technology and multimedia curriculum. Soundtrack is a tool that gives both musicians and non-musicians the kind of power that once was only found on the PC in tools like Acid or Fruity Loops. The software enables users to build royalty-free music compositions using thousands of loop files. It is the optimal choice for fast-paced production environments because all of its features - including arranging, editing, and mixing - work entirely in real time. In addition to Apple's own "Apple Loops" format, Soundtrack supports importing files from ACID, AIFF and WAV formats. When you start adding Apple Loops to your composition, Soundtrack automatically adjusts the tempo and key of the added audio to match the composition you're building. With the included 30 pro audio effects, support for additional Audio Units plug-ins, and full automation of mixing and effects parameters, Soundtrack is powerful enough to complete an entire professional music composition - from initial creation all the way through final mix. For musicians who would like to use Soundtrack as a musical sketchpad and continue with additional work in a different audio application, Soundtrack allows all tracks to be exported as individual files for further production in applications like Logic or Pro Tools. Soundtrack works well with anything that uses MTC or MIDI beat clock, so you can use it in real time with Reason, Logic, Pro Tools, Digital Performer, Cubase and more. Whether directly exported from Soundtrack or your favorite DAW, the resulting files can then be integrated with video, DVD, Flash, and Web projects.

The Next Step: Preparing Tomorrow's Music Educators for Today's Classrooms

Eugenie Burkett, *Shenandoah University*

Grace Ohlenbusch, *University of Central Arkansas*

Web-based on-line music instruction, now in its infancy, has the potential to dramatically transform undergraduate and graduate music programs. This demonstration will delineate existing commercial and non-commercial web-based on-line music instruction curricula, as well as forecast possibilities and extensions for various modes and models applicable to all areas of music ranging from music appreciation courses to music education courses with many variations in between.

Check It Out: Your Affordable Virtual Music Library

Frank Clark, *Georgia Institute of Technology*

Check It Out: Your Affordable Virtual Music Library details the first phase of a system delivering audio, video, and multimedia securely and legally to music faculty and students. Currently supporting music technology, music theory, and music literature classes, the system relies heavily on PHP and MySQL enabling individuals and departments to create customizable, high-return environments at virtually no cost. Other softwares and/or file types utilized in the

system include Flash, QuickTime, Real Media, Windows Media, MP3 and MIDI . Part I, *Overview of the System and Its Capabilities*, addresses the conditions that led to the development of the system, the need to create a virtual music library, the capabilities of the system, basic hardware, server, and network requirements, and an overview of the associated costs. Part II, *Implementation Considerations*, presents user interface options, authenticating users, generating PDF documents, media/asset creation, asset identification, and handling legal responsibilities. Part III, *Next Generation Developments*, concludes with an overview of the project's strengths, strategies to address identified weaknesses, and plans for the internal and external expansion of the system.

iPod and iTunes in Music Instruction

John Burgess, *Apple Computer*

Quicktime Pro Multimedia Authoring and Delivery

George Cook, *Apple Computer*

Saturday, 6 November (Lecture--Room 2)

Exploring Temperament and Intonation with Celemony's Melodyne software

James Noxon, *Indiana University*

New software from several manufacturers now makes a reality of the long-promised capability to allow treatment of audio files in a manner similar to the editing of midi files. This presentation shows how these capabilities are made available in Celemony's Melodyne software. As an example of one possible use for these capabilities, the presenter's use in studying temperament and intonation of Tongan islander's choral music will be featured. Other creative uses of these capabilities will also be included.

The Well-Tempered Director

Tim Smith--*Northern Arizona University*

Since the demise of Hypercard, developers have wanted an ideal environment for developing multimedia applications. Macromedia Director is a powerful, and stable, authoring system that can be used to create interactive "movies" (Shockwave) for Internet delivery of scores and digital sound. Tim Smith uses the fugues of the Well-Tempered Clavier to explore some of the possibilities.

EPOSTER--The Integration of Music Theory, Music History, Performance, and Technology in the Classroom Through the Assignment of Group Projects

Cynthia Folio, *Temple University*

This presentation is based on my own experience of using group projects in an introductory course for music majors. After teaching this large class many years as a lecture course, I realized that lecturing is an inefficient way for students to learn, however glitzy my presentations might

be. Group projects are a great way to get the students involved, while at the same time forcing them to integrate many skills, including music theory, music history, performance, technology, library skills and interpersonal skills. Through the use of group projects I cover fewer topics, but in more depth, rather than trying to cover every topic like a giant slalom course. The poster is organized as follows: (1) summary of research and resources on collaborative learning; (2) description of the implementation of group projects; (3) audio and PowerPoint examples from presentations; (4) integration of technology (such as the use of Blackboard for communication; web searches and library searches for the research; PowerPoint and musical typesetting for the demonstration); and (5) advantages and disadvantages in making group assignments.

The Portable Performer: Laptops, Software Synths, and Pocket Devices

Lynn Emberg Purse, *Duquesne University*

The Telharmonium, an early electronic keyboard synthesizer built at the turn of the twentieth century, weighed two hundred tons and took up the entire basement of a New York City building. In the 1960's, minimalist David Borden founded the first synthesizer ensemble, Mother Mallard's Portable Masterpiece, performing concerts using the portable keyboards built by Bob Moog. With the latest advent of powerful laptop computers, software synthesizers, and a wide variety of USB pocket size devices, today's electronic musician can pack all of the necessary electronic instruments for a concert in a carry on bag and claim true portability. This session is designed to explore and demonstrate the performance possibilities in a changing pantheon of electronic instruments as well as track the movement of laptop computers from recording and playback devices to interactive musical instruments capable of real time control.

Reaching Our Music Students With Disabilities Using Assistive Technology

Kimberly McCord, *Illinois State University*

Emily Watt, *Illinois State University*

This session will be an overview of available assistive technology devices that can be used to help adapt for students with disabilities in music. The demonstration will include photos, video clips and actual devices that help students will disabilities communicate more effectively, assist students with physical disabilities, hearing or visual impairments or aid students to create music using computers or technology as assistive devices. A discussion of the possible impact of learning disabilities on music learning and methods for adapting instruction will also be a part of this presentation. Some assistive technology devices from the Illinois State University SEAT Center will be available for demonstration.

ATMI Plenary Session--"Beyond Hi-Tech"

Todd Machover, *MIT Media Lab*

Technology has been so widely adopted in all kinds of music-making that it, in itself, is no longer a topic of news or astonishment. This is therefore an ideal moment to take stock of the advantages that technology has brought to musical activity, of some shortcomings which still inflict frustration in all kinds of contexts, and of some possible future developments which suggest that the most powerful potential of technology has yet to be realized. Examples from

recent work at the MIT Media Lab will be presented, including the Toy Symphony project (and especially the Hyperscore composing environment) to teach musical creativity and expression, the Tewksbury project to explore uses of musical intervention to help treat physical and mental disabilities, a collaboration with the in-construction Miami Performing Arts Center to develop a new media-enhanced model for live performance and active audience involvement, and a series of works-in-progress that push the current envelope of practice and explore what lies "beyond hi-tech." In discussing these projects, an attempt will be made to offer some guidelines for using and designing technology for professional training, for performance, for audience building, and for lifelong learning. And a vision will be presented of what musical language might be like in the future: a language that zooms between atoms and galaxies of sound; that finds beauty in natural and artificial hybrids, stretching past the "electric" to the physical and the ephemeral; which speaks with immediate impact while promising layers of secrets; which touches on every known thought and feeling while leading to unimagined horizons; and which merges performance, design, and architecture to establish a synergy of the senses, extending from the tiniest gesture to the scope of grand cities.

Combining Music and Video Using Jitter

Christopher Dobrian, *University of California, Irvine*

The most popular computer music programming environment--Max/MSP--recently has been extended with exciting new capabilities for video, 2D and 3D animation, and visualization of sound and music. This set of new objects, called Jitter, allows one to program realtime control of visual and musical media at the same time, to explore direct correlations between sound and sight including (but not limited to) visualization of sound and music data, sonification of visual information, audio and MIDI control of video and animation, and video motion tracking for musical control. Because Jitter is a generalized set of objects for handling large amounts of any kind of numerical data, it can also be used for other data-intensive tasks of interest to computer musicians such as Markov processes and phase vocoding. This presentation--by one of the authors of the Jitter Tutorial--will demonstrate some of these new capabilities, and will suggest ways that Jitter can be incorporated into a computer music curriculum.

Using Flash Animation to Enhance Structural Analysis of Contemporary Compositions

Laura Daigle, *Centenary College of Louisiana*

Patricia Gray, *Associated Colleges of the South*

Student composers can use Flash animations to present succinct, yet imaginative, analyses of standard works and of their own compositions. Flash enables the author to combine music notation, sound, text, and graphic files into one unified, easily transportable file that can be served over the web or contained on a CD-ROM. The process of collecting and organizing materials for the animation is in itself a strenuous and revelatory activity, which helps the student composer better understand every element and function of the new composition.

The Art-Science of Designing CAI Software for Music Theory using Max/MSP

Reginald Bain, *University of South Carolina*

Designing computer-assisted instruction (CAI) software for music theory using Cycling 74's Max/MSP might best be described as an art-science. Programming skills, a basic knowledge of human interface design theory, and familiarity with multimedia techniques are just some of the technical prerequisites. But a keen eye for visual organization may be just as important when it comes to designing such software. The ability to create a human interface that appears well-organized to the end user, yet has efficient code at its base is always a challenge in Max/MSP. This paper will discuss techniques and strategies associated with the creation of simple CAI applications for music theory using Max/MSP. The author will show how to create a CAI application from scratch, as well discuss the design of a few completed applications so that attendees can determine whether Max/MSP is the right platform for their creations.

Beyond Static Sound: tools and strategies for incorporating dynamic realtime sound in multimedia applications

Dr. Dan Hosken, *California State University, Northridge*

Multimedia authoring applications such as Macromedia's Flash and Director offer a wealth of options for arranging and animating imported media and providing user interaction with that media. The authoring environment in these applications is a central gathering place for media that have typically been created with external image, sound, and video editing applications such as Photoshop, Pro Tools, and Final Cut Pro. Within the authoring environment these media types can be altered in minor ways but significant changes typically require a multimedia author to return to an external editor. For many applications this is an acceptable model and can yield an efficient workflow and a high-quality product. However, this model does not allow for the dynamic alteration of this media at runtime. Dynamic alteration of sound is particularly useful in pedagogical and creative applications that deal with digital audio, sound, and synthesis. In this presentation, I will discuss several tools for integrating dynamic sound synthesis and modification with these multimedia authoring tools and demonstrate some pedagogical and creative applications that I have created with them.

Modeling Tonal Pitch Space in Two, Three, and Four Dimensions

J. Kent Williams, *University of North Carolina-Greensboro*

In his recent book, *Tonal Pitch Space*, Fred Lerdahl conceives and represents tonal relations in spatial terms. Since his theories are presented in traditional book format, his models of abstract pitch spaces and actual music works are necessarily restricted to two dimensional space. This presentation will show how many of Lerdahl's models can be rendered more accurately and vividly with multimedia authoring software. Models that represent two-dimensional spaces will be recast as Flash movies. Models of three-dimensional spaces will be rendered in (virtual) 3-D with Alias Wavefront's Maya. Models of abstract tonal relations will be provided with interactive features that enable a user to orient them toward a specific pitch class, chord, or key, and thus, understand their relevance to a specific musical work or excerpt. Analyses by Lerdahl and the presenter will be shown in movie format to illustrate how the music traces paths through tonal pitch space as it unfolds.

Digital Music Techniques Meets Animation: A Co-Curriculum Model

Mike Nord, *Willamette University Department of Music*

This presentation details an ongoing multimedia/intermedia co-curriculum project involving courses in the Music and Computer Science Departments of a Liberal Arts University. It is structured with a view toward facilitating discussion and curriculum development by sharing professional development activities, course content, practical resources, pedagogical strategies, and student work. Lessons learned through this collaborative work are applicable to a range of circumstances where aesthetically oriented "arts" participants partner in a range of media (i.e. sound, video, animation) amongst themselves, as well as, with creators of other multimedia elements.

Profiles of Rural K-12 Music Educators Using Technology

Dr. Richard Repp, *Georgia Southern University*

During the Spring of 2004, the researcher visited several high schools in the geographic region surrounding the local university (a rural setting). The purpose of the visit was to disseminate information and materials pertaining to developing music technology programs at the schools. Visits included a presentation to students and a separate presentation/discussion with faculty. Each school received supplemental materials designed to facilitate incorporation of technology into the curriculum. Observations from the visits and data collection from survey mechanisms led to conclusions on the incorporation of music technology into the K-12 environment. Through observations and a survey mechanism, the researcher developed profiles describing how music teachers in the rural setting are incorporating technology into their teaching. Profiles vary from teachers who use technology strictly for administrative purposes, to those who use single computers to lead classroom activities, to those who have limited facilities for student use, to those who have large, dedicated music instruction labs.

Hearing Tonal Context — A Linear Harmonic Approach Using Interactive Multimedia and Web-Based Dictation Drills

Alexander Brinkman, *Temple University*

We have made significant progress in teaching written theory, especially since the introduction of text books based on Schenkerian concepts, such as Aldwell and Schachter's *Harmony and Voice Leading* (1978). Progress in methodologies for teaching dictation skills has not been commensurate, despite tremendous advances in the technology for delivering aural theory training. I use an approach to teaching dictation that is efficient, practical, and highly successful. The student learns to hear larger patterns from the beginning — prolongation of harmonies through passing or neighboring motion, etc., and continues to integrate the linear and harmonic approach throughout aural theory training. The goal is for students to hear and comprehend larger tonal patterns rather than to parse the music into isolated chordal elements. At each stage I introduce topics through the use of model progressions, and then quickly move to examples from the literature. Thus, students rapidly assimilate common melodic/harmonic patterns and then apply them while listening to examples of real music. I am developing methods to present these

materials on the internet that allow the excerpts to be played in different keys, at different tempos, and in various timbres, and to bring out individual melodic voices or lines. The student can enter solutions and receive immediate feedback interactively across the internet. In addition to new programs and paradigms for learning harmonic dictation, I will present interactive web-based programs for perfecting interval recognition, improving tonal memory, and learning to hear special chromatic constructs such as the Neapolitan 6th chord.

A Web-Based Transcription Course

David Feurzeig, *Illinois State University*

"Transcription" refers to the practical task of notating actual music, usually from recordings, by whatever means is convenient-as opposed to "dictation," which connotes a classroom discipline of writing down phrases, often specially composed or simplified, usually played on piano, under time restriction and purely "by ear." The worldwide web provides an ideal medium for a musicianship course emphasizing transcription. Such a course set-up raises numerous pedagogical questions, including the advantages and liabilities of high-tech assistants, the implications of over-reliance on traditional tools such as keyboard and unlimited playback, as well as the question of academic honesty in a situation where the bulk of the work is eminently duplicable.

Nontraditional Strategies Using Software for Introductory and Intermediate-Level Music Learning

Nachum Lubovsky, *"Iad Harif" Center for the Arts, Israel*

The presentation focuses on nontraditional strategies using software for beginner and intermediate-level students. The author presents a wide range of software (Sim Tunes, Music Box-2, Sibelius, Cubase, Photo Jam) and applies them in the field of music theory, ear training and creativity.

Hypermedia Analysis and Presentation of Electronic Music

Marc Battier, *University of Paris-Sorbonne, France*

Hypermedia analysis and presentation of electronic music is currently undergoing a rapid growth and is attracting increasing interest. It is thought that the techniques developed to present visual elements derived from music with no scores is a way to help listeners to better understand this music. It is also hoped that other types of music will benefit from these techniques (traditional music and improvised music come to mind).

iVideo

John Burgess, *Apple Computer*