



**UAB Music Technology Academy / AL TI:ME Conference Session on November 14, 2009**

**Using Technology to Create Interactive Activities for Music Students  
Presented by Ms. Karen L. Garrett**

Students love to use technology such as electronic keyboards, digital cameras, computers and the Internet. Software programs are available to allow teachers and students to create interactive games, quizzes, worksheets and lessons for use in the music classroom or on websites. Techniques and ideas for using the media will be presented, along with resources for using technology to promote your music programs.

**Introduction and My Experiences with Music Technology**

**Creative Music Activities and Lessons on [www.musictechteacher.com](http://www.musictechteacher.com)**

**Using Sound Waves and Cartoons**

Brief demonstration of the Adobe Flash program and cartoons from [www.CartoonSolutions.com](http://www.CartoonSolutions.com)

**Programs and Websites Used to Create Interactive Activities:**

(Windows only software demonstrated on a Mac using 'Parallels 5 for Mac' and Win XP Pro)

**Hot Potatoes 6** - <http://hotpot.uvic.ca> or [www.halfbakedsoftware.com](http://www.halfbakedsoftware.com)

(Windows or Mac)

Piano Key Words (Multiple Choice with Pictures)

Louis Armstrong (Multiple Choice with Reading Text)

**Question Writer 3.5** - [www.questionwriter.com](http://www.questionwriter.com) (Windows)

Mozart Quiz

Rhythms Quiz

**ContentGenerator.net** - [www.contentgenerator.net](http://www.contentgenerator.net) (Windows)

Quiz generator (Fling the Teacher and Multiple Choice are free games.)

**Quia.com** - [www.quia.com/web](http://www.quia.com/web) (Online)

Online quiz programs and websites for teachers (PowerPoint / PDF)

Create Quizzes (Hangman and Rags to Riches)

**Articulate Quizmaker '09** - [www.articulate.com](http://www.articulate.com) (Windows)

Keyboard Features Quiz

**Sibelius** - [www.sibelius.com](http://www.sibelius.com) (Windows or Mac)

Creating worksheets, exercises and web pages

**Flash** - [www.adobe.com](http://www.adobe.com) (Windows or Mac)

Piano Practice Keyboards

**Programs and Resources I Currently Use to Publish Websites**

**Adobe Dreamweaver CS4** (Adobe CS4 Web Premium - [www.adobe.com](http://www.adobe.com))

**HostMonster.com** Website Hosting ([www.hostmonster.com](http://www.hostmonster.com))

**Questions / Comments**

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For more information and resources from this presentation visit:

[http://www.musictechteacher.com/inservice\\_al\\_time001.htm](http://www.musictechteacher.com/inservice_al_time001.htm)

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## Introduction / History of Experience with Music Technology

Technological advances have made it possible to do fun, interactive things with music that were not available years ago. I first learned about 'music technology' or music applications with technology classes in the mid to late 1980's while a student at Jefferson State Community College. Our school had one of the first keyboard labs in Alabama. The news articles stated that we were the first college in Alabama to be MIDI compatible. We used a program called Texture 2.5 and a Yamaha DX7 keyboard to input notes into the computer. At the time, it was difficult to do any multi-media projects other than creating a four-part score to print. The music students (maybe 5) crowded around the only computer and keyboard setup and all were amazed that you could connect a keyboard to a computer to input notes! That seems like such a long time ago! (News photos taken in 1987-1988)

February 1988 Jefferson State Junior College Page 3

### BACH TO THE FUTURE: Bach Is Good To The Last Byte

by Vikki Smith

"Back to the Future" is the place to go to hear a symphony orchestra that isn't there.

That place is Lurleen Wallace Hall 308 and the time is 11 a.m., February 23. At that time the Concert and Lecture Series will present former Jeff State student James Taylor in a program of electronic music.

Accompaniment for the performers will be provided by a symphony orchestra composed of 12 synthesizers and one computer which, Taylor estimates, will have taken 100 hours to program.

The hour-long program will feature Russell Williams performing the last movement of Beethoven's Fifth Piano Concerto. Williams is a pre-engineering major at Jeff State and has a degree in music from Birmingham-Southern College.

Also featured will be the Jefferson State Singers. They will present Bach's Fugue in C Minor.

Taylor will perform several jazz selections and will explain the MIDI synthesizer system, its history, and its increasing popularity among musicians.

Taylor owns an extensive MIDI-based synthesizer system which he uses in his position as a musician for Bob Moore, gomery and J.T. Roberts, Inc.

Taylor is serving as consultant to the Jeff State music faculty as the college is updating its piano lab.

For a number of weeks Taylor has been coming to the campus at night to work with the synthesizer and the computer, setting up the orchestral background for the February 29 concert. During the day the music faculty works to make Taylor's after-hours work as easy as possible. During the night another constituency of the college works to facilitate Taylor's work. Probably very few members of that constituency are giving Taylor advice about exactly when the violin should come in. However, they are letting Taylor come in—and letting him out of WH in the wee small hours of the morning. That support group is the campus security force. Both Taylor and Lyndel Hawkins, music faculty member who is working with Taylor on the February program, were eager last week to give lots of credit to the Jefferson State security force for the support they have given in preparation for the "Back to the Future" concert.

### 76 Trombones? No — But 13 Pianos

by Vikki Smith

With the addition of 13 electronic pianos and a synthesizer, Jefferson State now has the most modern piano lab in Alabama and the first to be MIDI compatible.

The Roland Electronic Laboratory pianos are digital, they never need tuning and are larger than the older keyboards used in the lab.

The teaching unit allows the instructor to listen to the students separately or together, and with the use of earphones, the students can play without hearing the other students.

The piano, combined with the Yamaha DX7 II FD synthesizer and a computer give the music department far greater capabilities than before. The software package currently in use is the Texture 2.5, which is the same package used in producing music for the program "Miami Vice" and others.

This spring music majors taking advanced music theory will be able to compose their pieces on the synthesizer and receive them printed out from the computer. Music instructor Lyndel Hawkins says that after the purchase of additional software, teaching piano by computer may be in the department's future.

For students who would like to learn piano basics there is a beginning piano class open to anyone. The class covers basic rhythm and reading music, and most students are able to play a composition within four weeks. The classes meet one hour a week for one hour's credit and are transferable.

After learning their first composition, students are allowed to experiment on the synthesizer.

"Young people are fascinated by the synthesizer," she said (and her daughter Beth Hawkins, arriving to join her mother for lunch, vigorously nodded agreement).

Music faculty members are currently working out details of scheduling and hope to be able to accommodate both music majors and non-majors in the piano lab and the synthesizer classes.

The piano lab is located on the third floor of Lurleen Wallace Hall. Hawkins' office is across the hall, but any one looking for her would do well to check in the lab. She'll be the one making big band/orchestra sounds at the synthesizer!

Hawkins is also learning how to use the synthesizer and a computer to produce the sounds of a complete orchestra. And before long she will probably be teaching Jeff State students how to do it.

A few feet away from the synthesizer where she sits as a student is the "master" piano where she sits as an instructor, facing a collection of new keyboards which make it possible for a room full of students to take piano lessons simultaneously. They wear earphones; she wears earphones. Each student practices and Hawkins tunes in first one, then another. She can communicate with each student without interrupting the playing of the others. She can set up duets. She can—well, do things piano teachers never dreamed possible before technology joined forces with the arts.

Obviously excited about the new equipment, which the college obtained through a grant, Hawkins predicts that the possibility of learning to use the synthesizer will attract many students to music courses.

### New Course Introduces Students to the Use of Electronics in Music

1988

A new course, Commercial Music: Electronic Equipment Techniques, will be taught this fall in the Humanities Division. The course is designed to help the musician become familiar with the function of electronics in the field of music.

Topics will include microphones, amplifiers, recording and taping techniques. The class will also explore the technology involved in producing music for television commercials, sound tracks for movies, and synthesized sounds. Students will record the software program Texture 2.5, the Yamaha DX-III FD, RX-5 Drum Machine, and the Oberheim Matrix 6-R analog synthesizer.

The course will be taught MWF from 9:35-11:00 a.m. in the Electronic Laboratory in Lurleen Wallace Hall, Room 316. For more information, please contact Lyndel Hawkins at 853-1200, ext. 1324.

Lyndel Hawkins awaits her piano students who will get individual instruction even though they meet as a group.

Advanced theory students Karen Garrett, Isaiah Radcliff and James Reid with instructor Lyndel Hawkins record compositions they have written. Reid, composer for Jeffress Publishing Company, estimates savings of up to six hours on his finished compositions as a result of using the computer.

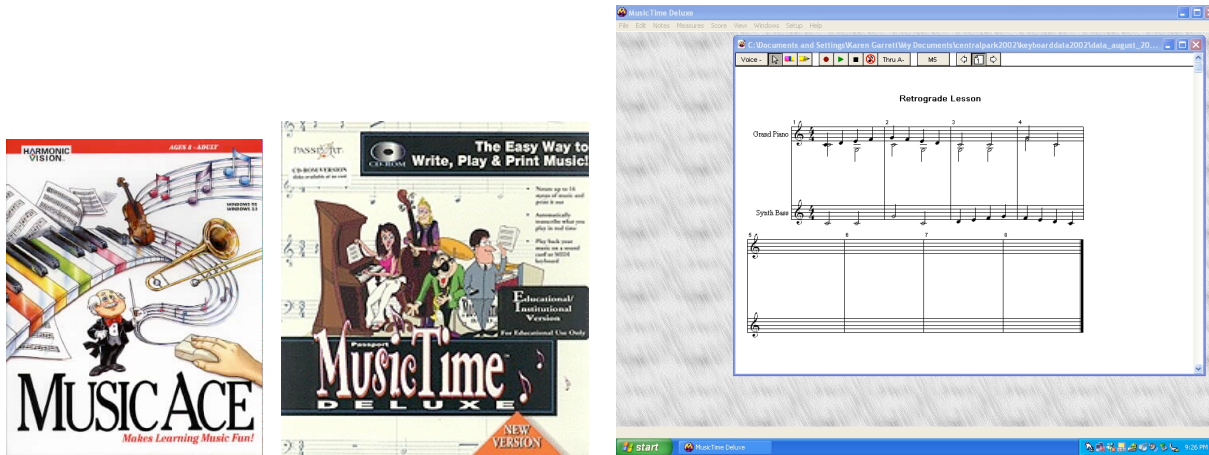
As a music education student at UAB in 1989, I was able to take a new music course in 'Computer Music Applications.' A program called 'Finale' was just introduced, and Dr. Henry Panion was one of the first teachers that I knew who was able to work well with music and technology. I wish that we had all the resources back then that we do now! The classes at UAB were a start to what would later become a very important part of my teaching career.



In 1994, my third year of teaching band in the Birmingham City Schools System, I was asked to teach an in-service to teachers about computers and music. I had to demonstrate the software programs that I had purchased (on my own) and was using at a middle school in the library. I also had to take my entire desktop computer and accessories to the meeting and connect it to a TV so the teachers could see what I was doing on the computer. Unfortunately, we did not have laptops and projectors available like we do today. I had to take some of the students who were not in band (but had to take the class anyway) to the library and worked with them using Music Ace, Microsoft Musical Instruments, Jazz: A Multimedia History, Professor Piccolo, Music Time Deluxe and more. We used Windows 3.1 computers. The students really enjoyed the programs. (Photos from 1994)



Students loved Music Ace because of the colorful, animated look it had and the ability to teach music notes, pitch and harmony as well as allowing students to create their own songs. Music Time Deluxe and Finale allowed teachers and students to create notation and arrange songs for use in the classroom. I started creating scores with Music Time Deluxe to provide music exercises and worksheets for my students as early as 1994.



By 1996, I was teaching music technology classes in a small storage room (my band instrument storage room) to 30 - 3<sup>rd</sup> grade students per week at Central Park School. That was my first 'official music tech lab.' I also was teaching band and recorder classes. The music technology program was so popular that I had to keep adding more music tech classes and have less band and recorder classes each year. The 'lab' only had space for 5 students at a time.



In 1998, I was researching materials on the Internet related to music technology. It was helpful to find the Technology Institute for Music Educators (TI:ME) site. The TI:ME site has an abundance of information about using technology in the music classroom. I have learned so much about technology in music through the TI:ME organization. I have also met many teachers who are interested in using technology in all aspects of their music instruction. I joined TI:ME in 1998 and have been an active member since then.

About the same time, I researched many sites on the Internet to see what other music teachers were doing with websites and found that some of the most interesting sites had music games or interactive activities to enhance what was taught in the music classroom.

In 1999, I started creating websites that were originally intended to give my students extra music activities to do if they had access to the Internet in their classrooms or at home. I wanted to create interactive materials like quizzes, games, lessons and worksheets to help them learn more about music outside of our short class time. Each year I added more activities for the students. I also started having many teachers from around the world send me emails about starting a music technology class and asking if they could come and visit our lab! I had no idea that our website was becoming so popular.

Programs such as Sibelius Notation Software, Hot Potatoes, ContentGenerator.net, Quia, Articulate, Question Writer and products from Adobe.com allow teachers to create highly engaging activities for classroom and Internet use. Many students turn to the Internet for learning about subjects now, and musical activities extend the curriculum from the classroom to the home. Students love playing games, so why not make games where they can learn music and have fun at the same time?



Fast forward to 2009... the Music Tech Teacher site consists of hundreds of pages of information about elementary music technology and has over 130 quizzes and activities, along with music 'help' pages and tutorials, lessons, worksheets and much more. We have moved to a larger room with 10 computer and keyboard stations. I currently have over 200 – 2<sup>nd</sup>-5<sup>th</sup> grade students per week now and teach music technology full-time. I never thought (in the late 1980's) that I would be doing something like this on a full-time basis ... and having so much fun!









I am going to give you a brief tour of the Music Tech Teacher site and then show you some of the programs that I use to create interactive quizzes and lessons.

- Home Page - FAQ Page - Composer-In-Residence Project – Concerts - Worksheets
- Student Work and Videos (Lowe, Bell) (Holder, Mills, Rock Song - Boys, All City Video)
- Lesson 8 Raps (Zip Your Lips, Don't Run In the School)
- Flash Pianos (Love Somebody)
- Demo Flash, Cartoons
- Music Help / Quizzes (Mighty Music Man 1, A-Chording to Santa, Piano Key Words, Intervals (FT), Keyboard Features Quiz (Show Key at bottom))

### Introduction of Programs Used for Activities

I use a number of programs.... some free, some very expensive, to create my quizzes, games and other interactive activities on my website. I also use several programs for creating graphics (Adobe PhotoShop) and music files (Sibelius, Adobe Soundbooth, Sony Acid Music Studio). These are some of the quiz-making programs:

	Software	Website	Price
	Hot Potatoes for Windows or Mac	HalfBakedSoftware.com	- Free
	Question Writer 3.5 for Windows	QuestionWriter.com	- Basic Edition - Standard Academic \$95 - Pro Academic \$195
	ContentGenerator.net for Windows	ContentGenerator.net	- Some Free - Individual Pricing - Suites 1 and 2 - \$199 USD
	Quia - Online Only	Quia.com	- \$49 per year, less with multiple subscriptions, web-based
	Articulate Quizmaker 2009 for Windows	Articulate.com	- \$599-699 First time purchase, Upgrade \$299 - Contact sales for educator pricing
	Adobe Flash for Windows or Mac	Adobe.com	- Adobe - Full Program \$699, Upgrade \$199  - AcademicSoftware.com \$248  (A lot cheaper if purchased with the educator discount for the full Adobe CS4 Studio suite of software - check the Apple Education site also)

## **Brief Demo of Flash - Sound Waves Lesson and cartoons from Cartoon Solutions**

- Demonstrate a sound wave file from a student (Soundbooth or Acid Music).
- Show the sound wave in Flash.
- Add the cartoon character and demonstrate how to change the mouth symbols to match the sound wave.
- Demonstrate the final product (Welcome to Music Tech Teacher.com)

## **Hot Potatoes**

One of the easiest quiz-making programs for education is 'Hot Potatoes,' a free program from HalfBakedSoftware.com. As of September, 2009, the software does not require registration and is freeware. Tech support is no longer available for the product, but there are numerous tutorials that help if there are any questions. There are also a number of people that answer questions in the Hot Potatoes community through Yahoo.com. The creators of the software are concentrating efforts to create a new version of the program that will succeed Hot Potatoes 6 in the next couple of years.

There are many different types of activities that you can create: Multiple Choice and Short Answer, Mixed Sentence / Word Jumble, Crosswords, Matching and Fill-in-the-Blank.

My students (and fellow teachers) love the program because it can be used to create questions for any subject. The easiest quiz to create is the **multiple choice quiz**. We read stories about composers in books such as the 'Meet the Great Jazz Legends' by Alfred Publishing. (Show Armstrong)

Students have to read the story and write questions as if they are the teacher writing the quiz. They write down up to 10 questions of important information about the composer, then type the questions into the program. They type one correct answer and two or three incorrect answers. Then they select the correct answer and proceed to the next question. At the end of the quiz, they save the file and create a web page. Fellow students may take the quiz and record their grades. If the teacher has a web page for the class on the Internet, the quiz may be placed on the Internet for everyone to complete.

The students like being responsible for 'making their own game.' Creating their own exercises or games also helps them remember the information about the musical composer or subject they are studying.

(Complete a Quiz, including graphics. Save as a web page)

## **Create Quizzes**

Piano Key Words (Multiple Choice with Pictures)

Louis Armstrong (Multiple Choice with Reading Text)

Treble Space Match (Matching)

(Maybe 'Identify the Bass Notes' – Gap-Fill Exercise – Problem with Mac version check button?)

### **Question Writer 3.5**

Question Writer is similar to other programs in that you type questions and answers. You are also able to add pictures and Flash files (created in Flash). The final output for the quiz is in a Flash format. The free Adobe Flash Player is installed on most computers around the world and allows the user to see your quiz exactly as you see it on your computer.

- Demonstrate QW 3.5 in Windows
- Use the Mozart Quiz and / or the Rhythm Listening Quiz

### **ContentGenerator.net**

Some of the programs from this site are free. These are some of the kids' favorite quizzes. It is easy to input questions and answers, then produce several types of games.

Demonstrate making **Fling the Teacher game or Multiple Choice**. Questions should already be typed for Fling the Teacher. The only drawback to these quizzes is that the teacher is not able to place their own music graphics or sound files in the program. The questions and answers are all text based. The animation is all done through the creator of the programs, Andrew Field, in the U.K. (Quizzes on Jazz Trivia or Rhythm)

### **Quia.com**

Quia.com is an online-based site that allows teachers to create quizzes, web pages, other activities, as well as have grades and compiled information in student reports displayed for the teacher.

- **Internet connection needed**
- Show PDF or PowerPoint / Display brochure
- 16 activity templates. All teachers have to do is fill in the questions and answers.
- Show Battleship, Hangman, Word Search, more.
- Show class records and scores.
- Free for students
- \$49 per year or less for teachers

Demonstrate process of making simple quiz. Make Hangman (Jazz Names) and Rags to Riches (Musical Math).

### **Articulate Quizmaker**

- **Need to Connect to Internet to Start Program on a Mac with Parallels!!!**
- Explain possible quirks with Parallels 4-5 and a Mac
- Demonstrate Keyboard Features Quiz and Output and/or Podcasting Quiz

### **If time - Sibelius Notation Program**

Another program that I use to create interactive activities is Sibelius. Sibelius is a professional notation program. It also is used to create worksheets and pages for publishing on the Internet. The Sibelius Educator version has thousands of worksheets already available for teachers to edit and print for classroom use.

Show worksheets on MTT website, if time.

### **If time - Adobe Flash CS4 (Advanced)**

Demonstrate the keyboard used in the Practice Pianos on the website. Twinkle, Twinkle, Little Star or Jingle Bells.

### **Questions / Comments**