Absolutely Free:  
Addressing the MENC National Standards using Freeware, Open Source and Shareware Software  
By Jay Dorfman and Marc Jacoby

You’ve budgeted for computers, keyboards and other MIDI devices, sound systems, etc., etc. But what about buying software? Buying commercial, shrink-wrapped software will bust your budget. That’s where Open Source, Freeware, or Shareware might help you provide solutions for integrating technology into your program without breaking the bank.

In Part I of this three-part series, we distinguished between Open Source, Freeware, and Shareware software, and we addressed software that could be matched to the first two National Standards. In this, Part II, we look at three more standards: improvisation, composing, and reading and notating music.

Standard III - Improvising melodies, variations, and accompaniments.  
Jazz may come to mind first when addressing the improvisation standard, especially in school band programs. But whether it’s for jazz, rock/pop, mariachi, or any other genre, transcribing your favorite player’s licks is a great way to learn style and improve your ears at the same time. Being able to slow the playback tempo down makes it easier to learn those fast or complicated runs.

Some may remember using a record player or tape deck’s speed control and the frustrating change in pitch that resulted from it (especially when transcribing Gerry Mulligan bari sax solos). You could use Audacity’s Effects (see Part I) to do this although it will require rendering time, is “destructive” editing and therefore changes the file permanently, and the resulting fidelity is not very good.

Instead, there are software apps specifically geared to accomplish this task. The Amazing Slow Downer falls under the category of shareware since the free download is a “limited” feature version. With this version, you can only play the first two tracks of a CD and only the first quarter (up to 3 minutes) of any audio file. With Amazing Slow Downer, you can control playback, equalization, and loop points of any sound file. This is “non-destructive” editing and enables the user to change pitch and tempo independently. One particularly useful feature of the Amazing Slow Downer is its ability to handle DRM (digital rights management) encoded files such as those you would buy through the iTunes Store.

As the screen capture shows, you can assign control functions to MIDI messages. That way you can work at your MIDI keyboard, controlling ASD without ever having to use your mouse or QWERTY keyboard.

Woodshedding is a colloquial term jazz musicians use for the act of practicing. It alludes to the image of the jazzer (Sonny Rollins being one of the more famous) working in solitude on scales, arpeggios, and patterns they’ll use in their improvisations. Inspired by the book, Patterns for Jazz by Jerry Coker, iShed is a freeware application that provides tools for practicing these elements in various jazz styles. Users can transpose scales, arpeggios, or patterns into all twelve keys by one of eight different methods. Teachers and students can also create their own patterns for practicing and sharing with others.

Standard IV - Composing and arranging music within specified guidelines  
Using technology to teach composition and arranging can come in many forms. Most popular and common are theory programs that present instruction and skill development on... continued on page 6
elemental components. Some are very broad in scope while others focus on more specific topics such as counterpoint or overviews of instrument performance techniques. These niche CAI applications can cost over one hundred dollars or more. Production values are generally good with these shrink-wrapped products and may include built-in student/class management tools or integration with notation programs.

Produced by Garritan Interactive and hosted by NorthernSounds.com (http://www.northernsounds.com/forum), Rimsky-Korsakov’s Principles of Orchestration and Chuck Israel’s Exploring Jazz Arranging are free, interactive versions of traditional textbooks, complete with audio files, animated score examples, and live video demonstrations. Both are web-based applications and require an active Internet connection. An interesting feature with the Principles of Orchestration is the addition of margin notes that address contemporary issues not found in the original text and additional score and audio examples. One especially exciting feature of both sites is the possibilities that a "forum" setting can offer. By allowing users to post comments and create threads of interest, the sites become on-line communities in which both students and teachers can participate.

Standard V - Reading and notating music

Though some recent interpretations of the National Standards say that reading and notating music is actually embedded into many of the other standards, for the purposes of this article, we will treat reading and notation music as skills separate from those assumed in the other standards. We have identified two types of software that are most applicable to teaching students to read and notate music: notation software, and music theory training software.

There are several popular notation applications on the market that are incredibly powerful. They produce stunning, professional quality scores, and many can now perform tasks such as creating high-quality audio recordings from scores, complex part creation, and even producing versions of scores ready for posting to the web. These packages can be costly, and rightfully so because they are very sophisticated. For those interested in using notation software without a financial investment, there is Finale Notepad. This free version of the popular Finale software from MakeMusic is available for cross-platform, unlimited installation. Its notation tools are substantially limited in comparison to the commercial version of the program. Limitations on free notation software often include a reduced number of available staves or pages, a smaller set of score markings, and fewer formats that can be imported into or exported from the program.

Despite these limitations, Finale Notepad is an excellent choice for introducing students (or yourself) to notation software. Limited versions of competitor software, such as Sibelius and Notion are also available, but Notepad is the only fully functioning product we have located.

Music theory training software is the type of software that most people associate with the term “CAI,” or computer-assisted instruction. Among the most popular titles in this category are Musition, Music Ace, and Alfred’s Music Theory. Similar to our discussion of software that relates to Standard 2, software in this category can have excellent production value, can provide good student feedback, and can allow teachers to track student progress. A free option in this category is a program found at www.musichtheory.net. This web-based application offers several excellent tutorials for learning to read and notate music.

A fairly regular obstacle that music teachers encounter is that school-based Internet security prohibits students from accessing certain websites. While we strongly advocate for online security and appropriate uses of web resources, we realize these types of obstacles can be frustrating. Musichtheory.net offers a “work-around” for this security

continued on page 16
thought were important points in the compositional process and describe the significance of each episode. Students also answered a number of scripted open-ended questions in which they named their favorite loops, described the best section of their mix, told what they enjoyed, what they learned, what was original, and what was creative. The verbal responses and the video screen were taped for analysis. Each student was interviewed; after telling about their memorable musical experiences they described the feelings and meanings of each incident. The interviews were recorded on mini-disc Mellor coded the screen actions, analyzed the verbal reflections and answers for emergent themes, and charted the interviews for critical incidents.

Although participants were not instructed to compose a piece with sections, the process all students used was vertical in which each section of a composition was completed before beginning work on a new section. All the students felt they were creative and all of them used divergent thinking when previewing loops and used convergent thinking when editing their mixes. Formal music training seemed to influence how students used musical terminology as well as their musical preferences and compositional processes. The student with more formal music training used less experimentation, felt that his creation was not original, and doubted that computer composition in the dance genre could ever be creative.

Participants differed in what they thought they had learned, varying from musical choices and concepts to ease of composing with technology. This was especially important to some girls who had never used technology for composing and a low school achiever who felt he had a credible accomplishment. Composing with eJay also affected participants' thoughts of personal identity; as they recognized and valued their creative decisions, some began to think of themselves as being musicians.

Implications for music teachers are that eJay (and similar software titles) can provide efficient means for students to create music by helping to generate and refine ideas that can result in musical choices. In as short an exposure as 15 minutes, arranging and composition standards can be approached. Looping software provides motivation for learners because the style of music is more relevant to student's world outside of school and using the software is authentic to the tasks practiced by commercial musicians. Cultural relevance and ease of use are especially important to children who may have had no formal music training or little school success.


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Absolutely Free... - continued from page 6

Triad Inversion

* Like intervals, triads can be inverted by moving the lowest note up an octave. The lowest note, called the bass note, determines the name of the inversion.

* In the above example, the root of the chord is the bass note. This is referred to as root position.

debacle—the entire contents of the site can be downloaded and installed on as many local machines as you like, free of charge.

So far we have described software that can help music teachers and students reach the goals implied by the first five National Standards. The last four standards present some very interesting possibilities for the use of software technologies. We will tackle those in the third and final installment of this article series. Stay tuned!

Chapter News - continued from page 7

the main vehicle for moving and manipulating everything. Every effort was made to make the day as non-platform specific as possible.

The basics of how to use Audacity were followed by a quick look at a lesson on doing digital musik, collaborative composing with looping, simple song forms at online sites, and more.

Although the learning was comprehensive, it was very intentional that the presentation style needed to be very casual with plenty of individual time for exploration. The lunch break conversation continued to stay pretty much on topic; teachers talking about teaching, and successful approaches to utilizing technology in the classroom.

Future plans for the Ohio group include a gathering for a day in the fall at Lebanon High School and once again hosting the Central Regional TI:ME Conference in January 2010. The call for proposals will be going out soon!

TI:ME chapters are also active in California, Florida, Maryland, Massachusetts, Texas, and Singapore. If you are interested in getting involved in your state's existing chapter, visit www.ti-me.org/chapters to contact the chapter leadership. If you would like to know more about starting a chapter, or have questions about chapters, please contact me at jdorman@bu.edu.