MusicXML: The New Link for Sharing Sibelius and Finale Files
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Ever since the Standard MIDI File (SMF) was sanctioned by the MIDI Manufacturers Association in 1988, it has served as just about the only music file format for exchanging documents between music applications. The drawback to an SMF file is that it is designed to handle performance information, not display information (layout, expressions, articulations, accidentals, etc.). The chart shown in Figure 1 from Williams & Webster, *Experiencing Music Technology* (3rd Ed Updated), illustrates this distinction. So, when one exports Finale notation as SMF and then imports this into Sibelius, a lot of very important information is lost as the brief illustration in Figure 2 shows. In the early 1990s an attempt was made for an industry standard file type for notation called NIFF, but it never was fully adopted as an open-source notation file standard.
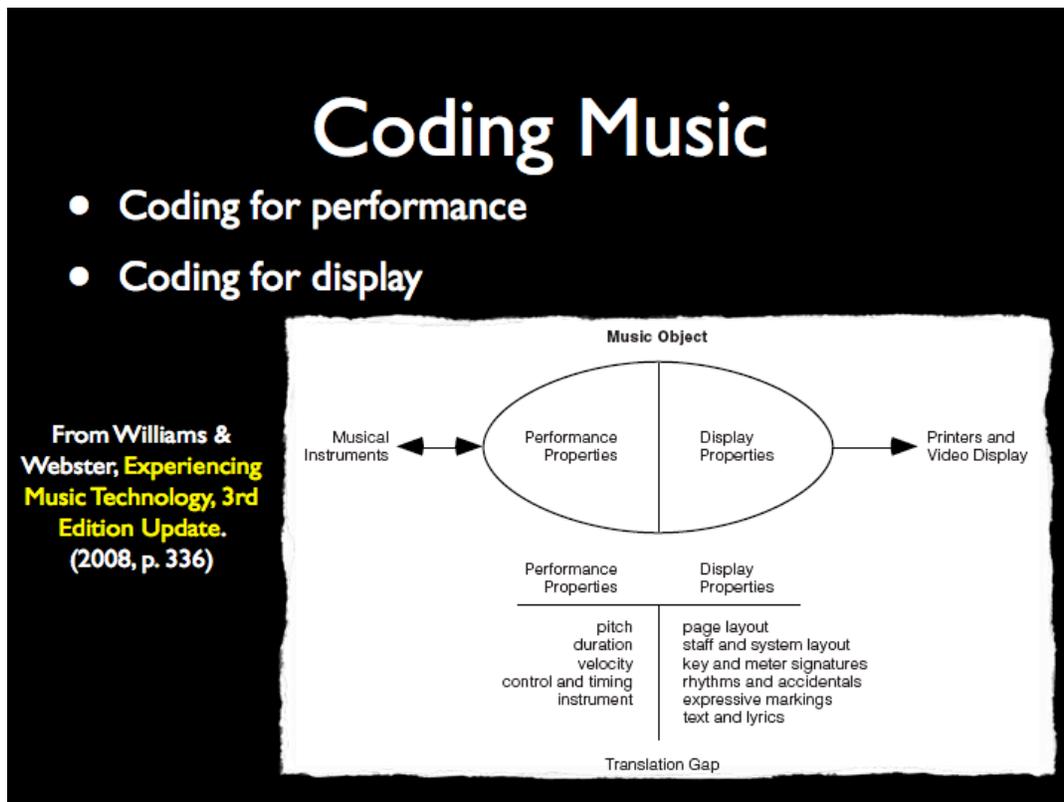
Enter MusicXML! XML or eXtensible Markup Language is prevalent throughout the Internet, Windows Vista and Mac OS X, as well as applications like Microsoft Office. Just do a search on your computer for files ending with the extension .XML and see how many files come up in the search. XML permits building unique sets of HTML-like markup tags, just like those used in web pages, for just about any application. Unique to each set of XML tags is a data type dictionary (DTD) or schema that tells the application what the tags stand for: the vocabulary so to speak. Michael Good

(www.recordare.com) developed a unique XML set for music notation, known as MusicXML. The first MusicXML 1.0 was released in 2004 and the most current version is MusicXML 2.0. As it has evolved, its ability to code and express more and more display details about the notation and its layout has greatly increased. With 2.0, multimedia elements can even be encapsulated within the file, audio and video, and a compressed format .MXL is an option. However, MusicXML 1.1 will do a pretty good job of translating notation files if 2.0 is not available.

So, how do you use MusicXML? Fortunately, software like Finale and Sibelius now permit some MusicXML options. And, with the addition of a plug-in from Recordare called "Dolet," full export and import of files between Finale and Sibelius is possible. Examine Figure 3. This chart shows the possible file types that Finale and Sibelius, in their most current versions, can import and export. Pay particular attention to the MusicXML options.

First, using the built-in MusicXML options in Finale 2008 and Sibelius 5.1 (not 5.0 but 5.1), you'll note that you could save a Finale file as MusicXML 1.1 and then import it in Sibelius. Sibelius now reads MusicXML files up through version 2.0. However, as the chart shows, Sibelius does not provide an option, native to the application, to save MusicXML files.

Now, let's add the Dolet plug-ins from Recordare. With Dolet added into the mix two things happen. The most critical is that Sibelius can now write MusicXML 1.1 files that can be imported into Finale. With this we have completed the loop and we can freely exchange Finale and Sibelius files using MusicXML. The other advantage is that it opens up the potential for exchanging MusicXML 2.0 files; my guess is that the Sibelius Dolet 3.5 will be upgraded in the near future to match the Finale Dolet 4.0 and at that time we will be able to freely exchange MusicXML 2.0 between software.
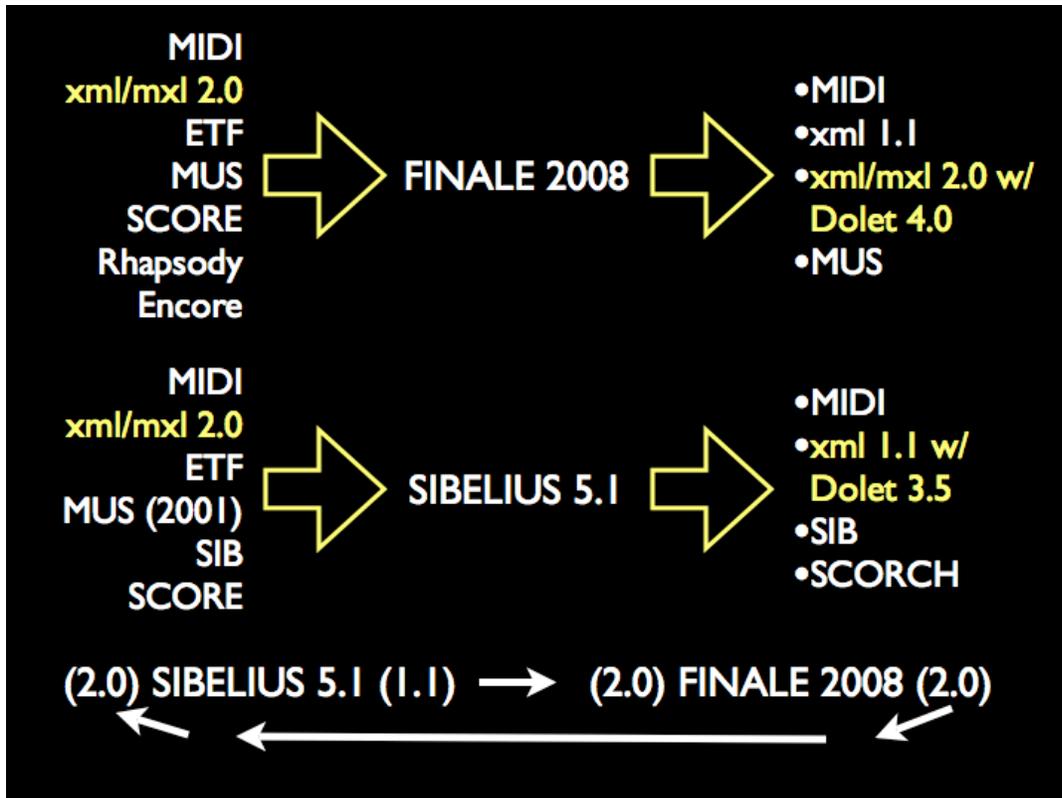
Liberation! Absolutely, with a few minor notes of caution. When you get the opportunity to try this I think you will be impressed with how well MusicXML does in capturing the fine points of notion and recreating them in another application. From what testing I've done, there were just a few minor issues I noticed, so minor that I'm more than willing to fix them manually than even think about using SMF MIDI files again. A few of these issues are noted here. Consider, however, that these may be due to my own unique set up and may be resolved as I gain more practice with import/export of files:

• Minor alignment issues with expressions, text, etc.; this simply required my moving a few things around with my mouse after the import.
• Instrument playback sound sample assignments (this primarily happened to me in Finale where things reverted to piano and I had to reset the instrument sounds).

- Stave sizing with large scores; very large orchestral scores, the staves ran off the bottom of the page until I did a global adjustment of sizing or proportions.
- Cautionary accidentals; these didn't get picked up in the translation.
- More sophisticated beaming (cross stave beaming, as in piano scores, and cross-measure beaming did not get translated in my testing).
- Music fonts (e.g., jazz fonts); I simply had to reset the font for the score and all was well.
- Percussion noteheads; a few minor inconsistencies between how Sibelius and Finale designate notehead shapes for percussion.

Interestingly enough, I've had some notation problems in either Sibelius or Finale, and after exporting and importing through MusicXML, the problem was resolved. So it has also fixed things for me as well.

What else is MusicXML good for? The best answer is to review this chart on the Recordare's website: http://recordare.com/xml.html. Notice the wide variety of applications using MusicXML. Notable are music scanning software (e.g., Smartscore, Photoscore, SharpEye), sequencing software (Cubase and Nuendo), and some special MusicXML software like MusicRAIN, a browser plug-in that will permit playing and displaying MusicXML from a web page, and PDFtoMusic Pro, an application that will translate a PDF file of music into MusicXML coding.

I presented a session at the recent CMS/ATMI conference in Salt Lake City on MusicXML. I will soon have a podcast of that presentation online on my web site at www.coach4Technology.net if you'd like to see more details. Try MusicXML, you'll like it, especially if you have need for saving and opening notation files between Sibelius and Finale. Consult the Recordare web site for pricing information; multiple-station discounts are available on request.