Report from the MusicXML Community Meetings

NAMM, Anaheim, 25 January 2013 and Musikmesse, Frankfurt, 12 April 2013

Michael Good
MakeMusic, Inc.

Introduction

The MusicXML community has been very active in making MusicXML a standard interchange format for music notation over the past 13 years. Yet the community had never met together face-to-face, only electronically via email. Electronic communities tend to work even better when people have met in person and can put faces behind the names and email addresses.

We held MusicXML community meetings at the two major trade fairs for the music software industry: the NAMM show in Anaheim, California and Musikmesse in Frankfurt, Germany. MakeMusic hosted the NAMM meeting and advertised it primarily to the MusicXML community. Scorio hosted the Musikmesse meeting as part of the Musikbiz Lounge and Congress. This setting, new to this year's Musikmesse and not available at NAMM, allowed the meeting to be more widely advertised beyond the immediate MusicXML community.

The slides from my Musikmesse presentation are available online at the www.musicxml.com website. Because of the broader audience at Musikmesse, the presentation starts with an introduction to MusicXML. At NAMM this introduction was much shorter. The presentation then moves to a MusicXML progress report from the past year, followed by some areas of discussion for possible future directions for the MusicXML format. These sections were similar between the NAMM and Musikmesse meetings, aside from updates from the three months in between meetings.

This document summarizes the discussion about future directions of the MusicXML format from both the NAMM and Musikmesse meetings.

Attendees

We had 16 people at the NAMM meeting and 42 people at the Musikmesse meeting. Each meeting had an excellent mix of publishers and software developers. The attendees for each meeting are listed here alphabetically by organization. People came and went during the meetings, especially at Musikmesse, so not every attendee may be listed here.

NAMM	Musikmesse
Doug Fraser, Alfred	Helge Kuhnert, Alfred
Deryk Rachinksi, CCLI	Manfred Knauff, Apple
George Ross, CCLI	Dominique Vandenneucker, Arpege
Richard Hotchkiss, Gvox	Wendelin Göbel, Bärenreiter
Chris Koszuta, Hal Leonard	Clemens Scheuch, Bärenreiter
Rob Rampley, Line 6	Corinne Votteler, Bärenreiter
Michael Good, MakeMusic	Tony Berman, BEAT Law
Justin Phillips, MakeMusic	Bernd Jungmann, capella-software
Beth Sorensen, MakeMusic	Christof Schardt, Columbus Soft
Michael Ost, Muse Research	James Sutton, Dolphin Computing
Tom Wise, Music Sales	Davo van Peursen, Donemus
Joe Berkovitz, Noteflight	Gunnar Helgesson, Gehrmans Musikförlag

Jeremy Sawruk, Pivitec	Norbert Gertsch, Henle
Evan Brooks, Stanford Jazz Workshop	Sandra Leone Ritter, Leondra Music
Gary Pritchett, Terra Works	Michael Good, MakeMusic
Richard Worrall, Terra Works	Julie Sopoci, MakeMusic
	Beth Sorensen, MakeMusic
	Karen VanDerBosch, MakeMusic
	Jochen Hirschinger, MGS
	Bob Hamblok, neoScores
	Reinhold Hoffmann, Notation Software
	Joe Berkovitz, Noteflight
	Konstantin Azadov, Peachnote
	Vladimir Viro, Peachnote
	Patrick Schmidt, Philomelos
	Robert Schäfer, Schott Music
	Rüdiger Schlesinger, Schott Music
	Johannes Feulner, Scorio
	Dominik Hörnel, Scorio
	Karin Höthker, Scorio
	Audrey Wetterwald, Scorio
	Carsten Bönsel, Technical University Ilmenau
	Jonathan Irons, Universal Edition
	Michael Meixner, University of Vienna
	Andreas Wenger, Xenoage Software
	Shaun Riordan, Yaacomm
	Ype van der Werf, Yaacomm
	Klaus Föhl, choir conductor and LilyPond user
	Raimund Lintzen, engraver and Finale user
	Michael Dubach, musician
	Matthias Ortmann, musician and arranger
	Dana Sakkijha, pianist

In the remainder of this report, we will identify each contribution and suggestion by the first name of the contributor. Some suggestions from Musikmesse came from Daniel Spreadbury at Steinberg. He could not attend the Friday meeting, but provided some suggestions earlier at Musikmesse that I relayed at the meeting.

These requests are listed in chronological order as received during the course of the meeting. We did not rank or prioritize requests during these meetings.

Features

We started off with a discussion of possible feature requests for future versions of the MusicXML format. Here are the requests from NAMM:

- Support interpolated text that is not associated with a system – e.g. block lyrics, introductory text – as an object that is equivalent to a system when reflowing music layout. (Joe)
- Better support for responsive engraving – layout that adapts to different uses and form factors (Joe)
- Similar to above – the responsibilities for effective music presentation are shifting from engravers to applications (Evan)
- Want a font that represents every MusicXML feature, including chord symbols (Evan)
- Font registration points diverge between music fonts. Can MusicXML standardize or better deal with this? (Joe)
- A more direct representation for musical playback order, such as a roadmap (Joe)

Here are the feature requests from Musikmesse:

- Make sure that support for Arabic music is complete. (Dana)
- Improve support for multimetric music. (Daniel)
- Improve measure numbering support for distinctions between measure number appearance and measure numbers for identification. (Daniel)
- Improve support for frame notation and chance / aleatoric music. (Daniel)
- Include a rational representation of subdivisions of the octave – e.g. 7th tone, 3rd tone – as an adjunct to MusicXML's representation using decimal semitones. (Daniel)
- Improve classical guitar notation of fretting hand position as Roman numerals, making a better connection between meaning and appearance. (Carsten)
- Improve support for musicological contexts and analysis. (Bob)
- Have verse numbering represented separately, not as text or lyrics. (Patrick)
- Include an indication of whether a stem direction has been modified by the user from the application's default setting, for use in scenarios such as transposition. (Christof)
- Generalizing from the above, include more indications of non-default settings in addition to the values currently captured in the MusicXML format. (Christof)
- Distinguish between hard and soft system breaks. (Joe, Christof)
- Provide different levels of MusicXML encoding – for instance, is all information there for formatting? (Dominique)
- Rework the voice concept so that there is some voice element that represents a strict, non-overlapping sequence of musical events. This is more commonly used than the more free definition of voice that MusicXML currently uses. (Christof)
- Provide full support for the needs of critical editions. (Wendelin)
- Improve editorial level support beyond the current MusicXML level element. (Wendelin, Johannes)
- Provide a standard way to map musical fonts to MusicXML meaning that applications can use with publisher-specific fonts. This could be similar to what was done with sounds in MusicXML 3.0. (Norbert)
- Specify where the default-x origin actually is for a measure with thick or repeat barlines – e.g. left edge, middle, or right edge of the barline. (Christof)

As you can see, the discussion at Musikmesse got much more involved than at NAMM, perhaps reflecting the greater number of developers present. I had to cut off discussion here to ensure time for the other topics on the agenda.

Documentation

The MusicXML documentation project completed this year was just a first step in meeting the needs we have heard in this area. Here are the documentation requests from NAMM:

- Overall, need improved clarity in the specification. (Joe)
- Use Apple user interface design guidelines as a model for MusicXML documentation. (Evan)
- Create a playbook / guidebook for music engraving in the digital age. (Evan)
- Specify what point on the glyph in semantic terms is the logical registration point (e.g., corner, center). (Joe)
- Clarify how developers can graduate to the next level of specificity and detail in their MusicXML implementations – for instance, what features should be included together? (Joe)
- Have an open bug database for the MusicXML specification, using a tool like JIRA. (Joe)
- Have more interactive documentation, allowing for suggestions to be captured together with the documentation. (Jeremy)

- Following up on that, have a confluence between systems; a Wiki companion to the JIRA database. (George)

Here are the documentation requests from Musikmesse:

- There is not really a specification yet. A specification is more than a list of individual features, but also includes models and concepts. (Joe)
- Have a specification that is under version control with a version history. (Joe)
- An example of models and concepts that should be included in the spec is the distinction between document order and temporal order. (James)
- Clarify and label the distinctions between semantic, appearance, playback, and analytical data within MusicXML. (Karin)
- As an example of such distinctions: exporting a fingering with a fingering element represents semantics; exporting it as a words element is visually correct but loses semantic meaning. (Karin)
- The current documentation focuses on developers. We also need documentation for publishers and engravers. (Joe)
- Clarify what are core features, what are more optional features, throughout the format. (Reinhold)
- The tutorial is a starting point for some of this, such as the conceptual documentation, but is very incomplete. (Joe)

Test Suites

MusicXML currently doesn't have any official test suites, just a collection of samples available on the MusicXML site. Here are the test suite requests from NAMM:

- Having conformance suites and test suites is important for developers. (Jeremy, Richard, George)
- Can there be something like a MusicXML validator tool that can test your export with use in different applications? (George)

Here are the test suite requests from Musikmesse:

- Have test suites that check for common implementation problems such as start-stop mismatches: things that may not be incorrect MusicXML, but are rare and probably erroneous in practice. (Dominik)
- Create a tool that can graphically represent MusicXML's structure for backup, forward, etc. in a simplified way compared to full-fledged notation. (Karin)
- Create a better, more comprehensive and diverse set of MusicXML and corresponding PDF files. (Dominique)
- Use the MusicXML examples currently in the documentation as a suite of unit test files. (Daniel)
- Use the notation examples from Behind Bars as a test suite, licensing from Faber. (Bob)

Reference Implementation

There is really no reference implementation for MusicXML, as no software implements all of MusicXML's many features. Finale is one of the best implementations available. As it is the one MusicXML implementation that MakeMusic fully controls, we asked for suggestions on what could be improved in Finale to make it a better reference implementation. We received one suggestion at NAMM:

- Fix problems that chord sheets can have with hidden staves, where positioning becomes inaccurate. (Deryk)

We received one more suggestion at Musikmesse:

- Import detailed positioning information from MusicXML into Finale. (Raimund)

Community

We asked about how we could improve communication within the community. One idea we have is to move the MusicXML mailing list to a web-based forum. This met with widespread approval at both NAMM and Musikmesse, with nobody suggesting to keep the mailing list. At NAMM, George suggested that Google Groups was a possible alternative to web-based forum software. Nobody had any suggestions for particular forum software, though at Musikmesse James warned about controlling forum spam if using phpBB.

At Musikmesse, the suggestion for the public bug database for the MusicXML specification was raised by Joe during this part of the discussion.

Other Discussion Points

Other discussion points came up during the NAMM meeting that ranged beyond the preceding topics:

- From one publisher's perspective, Alfred has some 50,000 SKUs. They are looking to get a MusicXML staff in house vs. an external service. (Doug)
- There was a lot of talk about reflowing music notation applications at this meeting, but there are issues with the original artist wanting to keep things looking as-is, and not wanting to lose that control. (Doug, Deryk)
- Following up on that, there is balance to be struck between letting music go free for interactive use, vs. consistency in presentation for the musician's experience. (Deryk)
- There is a wide range of demographics for music notation users with different preferences, such as notation size vs. wanting to minimize paper. (George)
- If the loss of control of notation appearance is inevitable, as it was for audio, make the best of it – for instance, including both the original layout plus reflowing capabilities rather than an either/or choice. (Evan)

At Musikmesse, most of the discussion stayed focus in the specific categories, especially in terms of features and documentation.

Summary

We received very good feedback from the people who participated in these meetings. It was great to see the improved contacts between developers and publishers. Scorio sponsored a reception after the Musikmesse meeting where people were finding each other and putting faces behind names that they had seen in some cases for many years. I was also encouraged to see the participation of several musicians who were neither developers nor publishers at the Musikmesse meeting. I am optimistic that the community will grow stronger through this type of face-to-face meeting.

There are lots of suggestions here, so we need to determine a way to move forward. Setting up a framework so that costs can be shared among the MusicXML community will be helpful. Scorio took a big step forwards in this respect through their hosting of the Musikmesse workshop and reception. We look forward to using the guidance from these meetings to improve the usability of MusicXML for musicians, publishers, and developers alike.