TRANSCRIPT

**For the Round Table on Information Access for People with Print Disabilities Inc. 2024 Annual Conference**

**Conference theme:** Information Equity: Empowerment through Technology, Advocacy and Collaboration

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# PRESENTATION - Music Braille: empowering the mainstream and specialist sectors with software, good practice guidance, and networking

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## TITLE SLIDE

Hello from the UK! And many thanks to the Round Table for permitting me to present remotely.

I’m Dr Sarah Morley Wilkins, Project Manager & User Experience Consultant of the DAISY Music Braille Project, from the DAISY Consortium, and I’m here to talk to you about Music Braille, and how we are empowering the mainstream and specialist sectors with software, good practice guidance, and networking.

With thanks to my colleagues, Arne Kyrkjebø – the project sponsor from the DAISY Board, and the Norwegian Library of Talking Books and Braille, and Haipeng Hu - the DAISY Music Braille Technical Consultant, and founder of BrailleOrch.

## SLIDE - Introduction

By way of an introduction to this topic - this is a time of celebration for music braille! It is possible that there has never been so much concerted global and collaborative effort around music braille as there has been in recent years, driven in great part by the DAISY Consortium and its Music Braille Project, kindly funded by donations from DAISY Members and friends.

## SLIDE – The DAISY Consortium

The DAISY Consortium is an international, non-profit membership organisation, working to improve worldwide access to reading for people with print disabilities.

DAISY has been leading standards and good practice in accessible digital publications for over 20 years, and is widely respected in the publishing and accessibility industries. DAISY works closely with technology companies and standards agencies to ensure that the reading and publishing technology of tomorrow provide an accessible future for all.

## SLIDE – Our vision

Our vision for this project is that: through international collaboration, musicians who read braille enjoy timely and affordable access to increased numbers of accurate music braille scores in hard-copy and digital formats produced by effective and reliable conversion tools.

## SLIDE – Strategic interventions

Our strategic interventions were driven by the shared global concerns in 2017 around the decline of music braille production and use, which were disadvantaging blind musicians worldwide.

Having researched global sector requirements in 2018, we devised and delivered a range of complementary activities. These addressed a range of issues which would positively impact on the future quantity, quality and availability of music braille in both hard-copy and digital forms.

## SLIDE - Successful interventions

Let me first tell you a bit more about our successful strategic interventions and the resources now available, which help to complete the jigsaw puzzle of the necessary solutions.

## SLIDE - Converter tools make it easier to produce music braille

Converter tools make it easier to produce music braille. In very basic terms – an automated converter tool takes a suitable file, applies specialist music braille rules to suit the requirements of a specific country, type of music, or a specific end-user.

It automatically converts it into a music braille file which can be read in hard-copy or digital format (or into Modified Stave notation - large print music for low-vision users).

The converted file can also be read immediately in music notation tools with screen-reading technology.

All the tool developers we work with are very responsive to answering questions, they make continual improvements, and welcome feedback and feature requests.

## SLIDE - MakeBraille

We supported the development of an automated online music braille conversion tool, MakeBraille, from the non-profit German Centre for Accessible Reading (dzb lesen) in Germany.

This online tool converts MusicXML files, or capX files (which are scanned print scores marked up in Capella) into music braille, according to user and country requirements, ready to emboss or read on a braille display.

Many end-users, educators, and various braille production agencies are using MakeBraille, including in Germany, the Netherlands, Spain, Switzerland, Australia and France.

It is available free to end-users, and to organizations under a paid licence, and has extensive support materials on its Wiki.

## SLIDE - Sao Mai Braille Converter (SMB)

We also supported the development of a much newer, and free, music braille converter from the non-profit Sao Mai Centre for the Blind, in Vietnam, called the Sao Mai Braille Converter (SMB).

This is a full braille translation program which provides a unified solution for text, images, maths and music. The tool can be installed to run on Windows, and there is an online version of just the music braille converter for those who don’t use Windows.

This tool converts MusicXML files into music braille, with various conversion options to create braille to suit different types of music and user, and returns a braille file to emboss or read on a braille display.

Many blind users and educators are already using the tool for music braille (and other) conversions, and if they wish to read and write music, they are using SMB in conjunction with the free mainstream notation tool, MuseScore. SMB has good support materials already available, with new resources being added all the time.

## SLIDE - MuseScore Studio

The free, mainstream music notation tool, MuseScore (now known as MuseScore Studio), from the Muse Group has made accessibility improvements to its interface and to its MusicXML output, with our support.

They have also recently added basic braille support – a basic live braille window and basic 6-key braille input.

This means that blind musicians can comfortably use MuseScore to read and create music scores, and can work together with sighted musicians.

(By the way, MuseScore can also be used to create Modified Stave Notation for low vision users), from the same source file, by applying dedicated Styles).

The default braille output from MuseScore is very basic, so to get a real braille file it’s best to export MuseScore files as MusicXML, and then convert them with SMB.

MuseScore has extensive support resources and a mainstream user base, as well as an increasing number of resources and users focussing on accessibility.

## SLIDE - Improved file format standards

Our work has led to improvements to file format standards, which give better conversions into braille.

Music notation tools which are used to create music scores - such as MuseScore, Sibelius, Finale, and Dorico - can save music in their own native file formats, but they can also export files as PDF and MusicXML.

Now, PDFs are typically very unhelpful for musicians with print-disabilities, since the musical content is not accessible. We therefore wanted to use the industry standard file format – MusicXML – as the master to create accessible formats.

However, in the past, MusicXML files saved by these notation tools were not always been sufficiently complete for us to generate a useful braille file.

But now, after working with the W3C and the notation tool developers, MusicXML contains the tags we need to present the music properly in braille and large print music.

When saving music notation files for conversion into music braille we recommend that you use the latest version (and use the Dolet plug-in for Sibelius and Finale), to ensure you get the most complete MusicXML out of the tools.

## SLIDE - Start from a ‘good’ MusicXML file

Now, automated conversion tools need a ‘good’ MusicXML file to start with, which has been well-engraved. If all musical elements and texts have been carefully and properly entered, then you’ll get a good conversion into braille.

But, if it’s not been well-engraved, although it might appear OK on-screen or in print, the underlying accuracy of the music won’t be correct, and won’t convert well, or at all.

So, before you attempt to convert a MusicXML file with an automated tool you should sense-check it, to see whether it’s suitable for conversion.

For example, check that all notes and text are present, that dynamic markings are correctly inserted and anchored to the right notes, check that slurs and ties are being used correctly, and that lyrics and other texts are correctly labelled. You’ll soon spot simple engraving errors which mean the file isn’t a ‘good’ one, and wouldn’t convert well through automated tools.

If you don’t start with a good file, you won’t get a great output, and it might even crash the converters.

## SLIDE- Engraving guidelines

To help engravers, composers and educators learn how to create ‘good’ scores, we’ve developed engraving guidelines for accessibility.

These guidelines are based on best practice for normal engraving, but add some specific guidance where accessibility is paramount, such as correctly entering dynamic markings and so on.

These guidelines are easy to follow, and lead to the creation of good scores suitable for automated conversion into music braille, or large print. We know that some mainstream engravers and publishers have already adopted the guidelines.

## SLIDE - ‘Born accessible’ scores

Creating scores following our guidelines ensures that new scores are ‘born accessible’ and are suitable for immediate conversion into accessible formats, or read directly in notation tools with screen-reading software.

I’ll talk more about this in a minute.

## SLIDE - Online teaching and learning resources

We’ve also focussed on online teaching and learning resources.

There was a shortage of shared knowledge and resources in this niche sector and consequently braille-reading children and adults were not getting the tuition they required. To help promote existing resources and avoid duplication of effort, we collated as many online resources as we could so we can signpost them.

In contrast to other resource listings, ours are grouped by end-user type and presented in a suitable order to progress through the content.

The resources are suitable for blind and sighted musicians and teachers at various stages of their music braille journey.

## SLIDE - Music Braille Production Network

We now have a global group of music braille producers in a ‘Music Braille Production Network’ who can efficiently source existing scores and procure music braille productions from each other. This addressed the issue that many music braille transcribers often felt isolated and disconnected from each other, and agencies were often duplicating efforts unnecessarily.

We have agreed guidance for producing scores for international readership, and these harmonize some elements of transcription formatting for the widest end-user benefit – and making it easier to share files and for end-users to be able to read scores produced in other countries.

## SLIDE- Metadata for music braille

Our Network also agreed to harmonize metadata fields to describe music braille files in their cataloguing systems. The metadata guidelines we developed were prepared with The National Library Service and ABC Global Book Service.

The use of consistent and helpful metadata makes it easier to find and retrieve suitable scores from online collections, and for files to be shared with other online collections.

The metadata include all the obvious things like title and composer and so on, but also important details for braille scores - like the format of the music braille, language and braille encoding used, and line length and page length.

Braille libraries and online collections are currently working towards implementation of the proposed ‘Core’ elements (the most vital pieces of data required for a music braille file), and the ‘Desirable’ elements (those pieces of data which are helpful but not vital).

## SLIDE - Current interventions

So, the last section of my presentation is about our current focus for the remainder of the project, up to Spring 2025.

We’re concentrating on helping with implementation of the resources previously developed in the project, with a particular emphasis on the promotion of a ‘born accessible’ agenda for music publishing.

## SLIDE - ‘Getting Started’ resources

We are devising a range of ‘Getting Started’ resources so that people can find out about, and learn to use the available tools and guidelines. These resources will initially be aimed at educators and end-users, but will also be useful to transcribers.

Resources underway include videos and user guides to the conversion tools with practice materials. Testing and recommendations of suitable Optical Music Recognition software which could help with the creation of a digital score. And, recommendations for how to find and check files which are suitable for conversion into music braille.

## SLIDE - ‘Born Accessible’ music publishing

Together with RNIB, we are very excited to have initiated an international ‘Accessible Music Publishing’ activity in the mainstream music publishing industry, highlighting the need for born-accessible scores for musicians who are print-disabled.

We can learn a lot from the trade book publishing experiences, but some issues are specific to music publishing, and need dedicated attention.

If publishers make well-structured scores (notation files or MusicXML files) available to agencies or directly to end-users, this would revolutionize the speed and the way in which musicians with print-disabilities can access music scores, and gives users great flexibility and control for reading them.

As I said earlier, ‘good’ master scores can be very quickly and accurately converted into accessible formats, such as braille and Modified Stave Notation, and can be embossed, read on braille displays, and read in music notation programs.

## SLIDE - Accessible Music Publishing Action Group

We have had a really positive response already from music publishers, composers, exam boards, engravers, transcribers and end-users. DAISY and RNIB have run two Round Table events, and established an Accessible Music Publishing Action Group which includes publishers such as Taylor & Francis, Wise Music Group, Schott Music and ABRSM, among others.

## SLIDE - Publisher policy and practice

We are now able to work more closely with publishers and engravers to develop policy and practice regarding the supply of digital files for musicians with print-disabilities.

Publishers are now considering how to adopt engraving guidelines into their workflows; how to commission new productions as ‘born accessible’ publications; and how to make back-catalogue scores available which might not be in a suitable format. Engraving companies and file-conversion services may be particularly important here.

Publishers are also considering what their policy should be on the provision of digital files for print-disabled musicians, how they handle customer enquiries, retrieve and supply files, and how they promote their services.

The publishers involved in our Action Group are already raising these issues with music publishing associations, and we look forward to a continued and successful ongoing relationship with this sector.

## SLIDE - Practical solutions for teaching and learning music braille

We would like to collate and signpost to practical ways of teaching music braille, which can be shared worldwide. We hope to bring together (or join) music braille teaching practitioners in a working group to find out what practical teaching techniques are working and whether new resources need to be developed.

By increasing the amount of quality teaching resources and promoting them to teachers, we hope to quickly see an increase in teaching support in schools and beyond.

## SLIDE - Music braille standards

Finally, there’s an international interest in improving music braille standards themselves to benefit transcribers and the developers of converter tools.

Transcribers have long-felt that there are some gaps and some ambiguities in the music braille standard which could helpfully be addressed.

The International Council on English Braille is considering writing an Addendum to the main reference code book: the New International Manual of Music Braille Notation (NIM) by Bettye Krolick, 1996.

Various braille experts have begun to contribute proposals for new content, including from the DAISY Music Braille Project. Proposals include for example: clarifications on existing guidance; and musical notation which does not currently have a braille equivalent, such as Tablature, Gregorian Chant, hand-signs for complex keyboard music and so on.

This will require a big international effort - getting the right global music braille experts together to make and agree proposals, and see it through to publication is a major undertaking.

Discussions are underway between relevant braille authorities to establish the best way to do this.

## SLIDE - The future

In closing, we feel that our work so far has taken us a long way to securing the future of music braille production and use.

Our dedicated funded focus on music braille continues until Spring 2025, when we anticipate that the sector will be taking responsibility for the majority of ongoing activity, without the dedicated driving force of the DAISY Music Braille Project.

## SLIDE - By Spring 2025

By Spring 2025 we therefore hope to see:

* mainstream music publishers providing (or beginning to provide) ‘born accessible’ files to agencies and musicians who need alternative access to print scores
* agencies continuing to network and collaborate effectively to share expertise and develop knowledge around music braille production and use;
* various conversion tools being widely used, with active user-groups, and feedback given to developers, who make continuous improvements;
* increasing use by Authorized Entities of the ABC Global Book Service as the primary source for sharing and obtaining music braille files;
* more music braille teaching available for musicians of all ages, with new materials being developed collaboratively and shared widely;
* and lastly, that production houses are witnessing increased demand for, and fulfilment of, accessible scores for musicians who are blind, low vision, or with other print-disabilities.

## SLIDE - Contact details

There are various ways to engage with the DAISY Music Braille Project and our activities, helping to build resources in our community, and helping us to celebrate even more music braille successes!

You can visit our web pages at [www.daisy.org/MusicBraille](http://www.daisy.org/MusicBraille) where you’ll find all the guidance and links to the tools I’ve mentioned, and to sign up to our mailing lists.

And you can email us at [MusicBraille@daisy.org](mailto:MusicBraille@daisy.org)

It’s a great community to be part of! Thanks to everyone here who’s already involved, and here’s to another year of great progress in our sector.

Thank you for listening and for your interest in music braille, and I’ll be very happy to take any questions. Thank you.