DAISY Music Braille Project:

Q1 update 2021

Reporting on project activity in Q1: January, February and March 2021

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# 1. Interactive end-user music braille tool

**Aim:** At least one improved interactive music braille user tool is available for blind musicians to independently read, write, convert and explore music in accessible ways, in education, for work and leisure.

**Update:** We have made good progress on our planned Q1 activities:

* MuseScore: Fixing bugs in MusicXML output to facilitate better conversion into music braille.
* Sao Mai Braille (SMB): Implementing Bar over Bar formatting; fixing existing music translation issues; creating SMB Braille music translation web service, ready for further testing in Q2.

## MuseScore Q1 developments

Lead: Peter Jonas

### a) Project-funded improvements

In this quarter, 3 bugs relating to MusicXML export were fixed and some progress has been made on a 4th bug. A 5th bug was fixed by a member of the community and will not be charged for as part of this project.

1. Defined measure number not exported (#298147)
2. Double fermata exporting note with both fermata and grace note (#269926)
3. Text in voice 2 not correctly placed (#303450)
4. Repeat measure sign not exported or imported (#21649)
5. Breath after rests not exported (#302427) – fixed by a community member.

Due to some ongoing work for MuseScore 4, it was only possible to fix these issues in terms of MusicXML exported from MuseScore, but not for MusicXML imported into MuseScore from other programs. As far as Braille is concerned, only the export matters.

### b) Additional accessibility improvements funded by MuseScore

In addition to the above work carried out for DAISY, MuseScore is undertaking its own improvements to accessibility as part of a major UI overhaul for version 4.0. Chief among the accessibility improvements is the segmentation of the UI into sections and subsections to allow for fast navigation by keyboard users.

In MuseScore 3, every toolbar button and Inspector control was a distinct tabbable object, meaning it could take hundreds of presses of the Tab key to navigate the entire interface. In MuseScore 4, the UI will be divided into sections, such as Toolbars, Palettes, ScoreView, and Inspector. Keyboard users will be able to jump from section to section by pressing the F6 key, with Shift+F6 used to go in the opposite direction. Now a complete UI circuit will only take 6 or 7 keypresses, rather than the hundreds previously required. These sections will be further divided into subsections, such as individual toolbars (e.g. file operations, note input, playback controls, etc.) and logical groups of controls within the Inspector. These subsections will be navigable with Tab and backtab (Shift+Tab) key combinations, thereby enabling speedy navigation within sections as well as between them. Individual buttons and controls will be accessible via the arrow keys, or via Tab when the arrow keys are needed for another purpose (e.g. navigation within a text field or dropdown menu). MuseScore’s internal team is implementing a new shortcut-handling system to make this advanced form of keyboard navigation possible.

## 1.2 SMB Q1 developments at Sao Mai Centre for the Blind

Lead: Phúc Dang Hoai

In this first quarter we have laid the foundations for a robust and flexible multimedia music braille converter tool – Sai Mai Braille (SMB).

1. Redesigned the structure of SMB music module at the lowest level, instead of processing at measure level.
2. Reproduced all MBC score examples into MusicXML, implemented most popular and important rules of MBC, and making continuous improvements.
3. Bar-over-Bar format implemented in its basic form, focusing on instrumental scores with notes, harmonies and lyrics, with beat and sub-beat division to handle line breaks.
4. Supported: metronome definitions by notes, different combined time signatures, applying correct intervals for right and left hand, slurs and ties.
5. Uses latest Liblouis to translate text elements such as lyrics.
6. Implemented a parser for note items and provide text descriptions for each (to enable screen-reader access with speech output to the score).
7. Added braille tags including their relevant dots in the SMB master file for advanced braille formats, braille music reading, and for later 6-key input.
8. Improved the SMB editor for file open/save, translate, and saving as rich text and BRF document types.
9. Implemented a basic web-based converter for internal testing purposes with basic options (e.g. language, choosing part to translate, set characters per line, and measure numbering).

# 2. Professional music braille conversion tool

## 2.1 MakeBraille Q1 development at dzb lesen

Lead: Matthias Leopold

**Aim**: At least one improved tool is available for rapid professional, accurate and automated music braille transcription which produces global formats and is linked to a production workflow. Note that this does not remove the need for skilled music braille staff.

**Update:** Our Q1 activity has seen further improvements to Bar over Bar formatting, country-specific requirements and customization. If you wish to see the full development list please visit <https://dzblesen.uber.space/> and follow the link to ‘What’s New in MakeBraille’.

Reporting on our priority activities for Q1:

1. **MakeBraille trial:** Extended with the 8 participating agencies who were happy to continue testing and giving country-specific feedback. They receive weekly development updates and questions to answer.
2. **User Profiles**: to apply quick configuration settings for different kinds of users (e.g. beginner, blind teacher) are now in place.
3. **MIDI output**: now created with the music braille, returned by email for scores which permit it, to help with learning the score.
4. **Contracted braille for lyrics**: basic support now implemented for UK UEB and North American UEB, and German.
5. **Training workshop** on whole process of scanning, marking up, converting and using a score: resources prepared during Q1, workshops will be offered during Q2.
6. **Further country-specific requirements** are now implemented for countries detailing their needs for different situations.
7. **Helpful features added**: including files all returned by email, no longer on-screen; a summary of configuration options saved in the filename; updated Capella Scan Optimizer to highlight further mistakes ready for correction prior to conversion.
8. **Liaison with developers of interactive music tool,** to discuss compatibility and complimentary functionality.
9. **Wiki pages in English and German**: full Wiki Support pages are now available to registered testers in both English and in German, including captions for videos.
10. **Bug-fixing and general improvements**, especially in implementation of Bar Over Bar.

# 3. Other project news

## 3.1 Global Virtual Competence Centre

At our 2019 project meeting, SBS proposed an idea for a network of agencies participating in a virtual competence centre - whereby agencies could offer their music braille transcription services and outsource production to each other. This could benefit countries who lack expertise in being able to obtain music braille resources, and could provide sufficient demand for those countries wishing to retain their skilled music braille staff.

Their idea met with positive interest, and led SBS to survey agencies to explore their interest further. With feedback from that survey, the proposal has been further developed in collaboration with the DAISY Music Braille project, and was recently circulated to the DAISY Music Braille Project group for comment, with an invitation to join a virtual meeting on 22 April to discuss the proposal with other interested agencies/producers and to find a few agencies wishing to trial a process together. We will share resulting meeting notes for those who cannot attend the meeting.

## 3.2 Teaching and learning of music braille

Our international surveys about the production and use of music braille in 2019 identified that certain aspects of teaching and learning of music braille needed some concentrated effort to ensure that musicians of all ages continue to have access to knowledgeable teachers and resources to follow their musical interests.

So far the project has concentrated on securing improvements to the conversion and notation tools and file formats and standards, but we are now in a position to consider how our efforts could contribute to teaching and learning of music braille during 2021 and 2022. We will be seeking further views and interested parties later in the year, so please watch out for an invitation and take part if you can.

## 3.3 Publisher workflow

We would like to engage with some interested music publishers to establish a workflow which would include the generation of a high-quality digital score suitable for effective conversion into music braille. We have one publisher in mind already, but if your country has a publisher who you think might be interested, please let Sarah know.

## 3.4. Conference presentations

**Tactile Reading conference:** our project has a paper and video presentation at the international ‘Tactile Reading’ conference 28-30 April, organised by Statped in Norway (<https://www.statped.no/tactilereading2021>).

# 4. Related news from around the sector

## 4.1 Tactile Reading Conference 28-30 April 2021

<https://www.statped.no/tactile-reading-2021/>

<https://www.facebook.com/TactileReading2021>

A virtual conference bringing together practitioners, developers, and innovators in the field of tactile reading, academics in various research areas, and commercial companies. The program is now available, consisting of 39 parallels, 4 plenary sessions, 2 keynote sessions and a digital exhibition with posters, stands and suppliers. Free pre-conference workshop day on 28 April – on technology and aids for the blind and visually impaired and how developers and innovators can cooperate with the user and the Braille teacher to create better products. Plenary and parallel conference presentations are on 29 and 30 April, including themes of Early intervention, Braille and literacy for children and adults, 3D, Braille and universal design, Tactile graphics, and Music Braille.

## 4.2 Braille software from ONCE

From Carmen Bayarri Torrecillas, ONCE, Spain

We’ve included in our braille transcription software “Ebrai” PEF and BRF (english table) compatibility. That will help in order to exchange braille files between users. “Ebrai” is our free braille transcription software from ONCE. “Ebrai” is now only available in Spanish. We have another software “Visualizador Braille” (Braille display) with English and other language interfaces. This software will also include in the upcoming version PEF and BRF compatibility. “Ebrai” and “Visualizador Braille” are available for download from the website of CTI-ONCE (<https://cti.once.es>)

## 4.3 Teaching package being developed by Dedicon for blind children to learn to play ukulele

From Lisanne Aardoom, Dedicon, Netherlands

Dedicon is going to develop a teaching package to teach blind children how to play a musical instrument (ukulele). The basis is a spoken teaching method, supported with tactile images and a very brief introduction on braille music. During development we will involve a few blind children and evaluate the materials. With this teaching package we want to make blind children enthusiastic about playing an instrument and make music more accessible for them. We hope that some of these children will go on and learn sheet music (music braille).

## 4.4 Music braille digitization update from NLS

From Juliette Appold, NLS, LOC, USA

Since March 2020, NLS’s “Improving Braille Digitization” project using 3D-technologies has been on hold. The project is at a stage where a prototype machine is being built. With respect to COVID-precautions, we needed to pause this work.

We are looking forward to a return of more normalcy with more regular onsite work to be able to resume our project. In the meantime, at a much reduced capacity, we continue to scan braille scores using the in-situ ‘DotScan’ scanner.

## 4.5 Music and Sound Accessibility in the UK

From Peter Bosher, Soundlinks, UK

Driven by gaps in the sector, a new working group in the UK is trying to identify ways in which blind and partially sighted learners, musicians and sound engineers of all ages, and those who support them, have ready access to resources, information, advice and expertise to enable them to pursue their aspirations for study, employment or leisure, especially where technology is concerned. We are considering issues such as: teaching and learning resources; tools for reading, writing, creating and recording music; tools for sound recording and editing; resources for performances; and employment opportunities.

If your country has centers or services which demonstrate excellence in supporting blind musicians and/or sound engineers please do get in touch via Sarah, so we don’t reinvent the wheel.

## 4.6 Braille Libraries Survey – seeking resources to benefit blind and visually impaired musicians in Turkey

From Assoc. Prof. Dr. Koray SAZLI from Yildiz Technical University, Istanbul, Turkey and Master's student Betul YAZAR from Gazi University, Ankara, Turkey.  
  
Together we are working on an article about European braille music libraries and institutions whose resources might be available to visually impaired musicians living in Turkey. We have prepared a survey in order to obtain conclusive information for our research.

Thank you to those who have already responded, but we would like to hear from more braille libraries please. We would greatly appreciate your participation and candid answers. Our intent is to write a leading-edge article in Turkey for Turkish visually impaired musicians.  
  
Please find the survey attached for your potential participation. We extend our sincere gratitude to you for your time and contribution. Please send your completed survey to [braille.libraries.research@gmail.com](mailto:braille.libraries.research@gmail.com)

## 4.7 Do you have music braille news to share next time?

I’ll happily collate other news from around the sector and send it out. Our next quarterly update will go out in July, so please send me your news by **Wednesday 7 July**. This mailing goes out to around 150 music braille experts worldwide, including transcribers, teachers, composers, end-users and developers, among others.

# 5. With thanks to our funders

We’re very grateful to the following agencies who are making our activities possible.

In 2020/2021:

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* Nota
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