

Securing the future of music braille



The DAISY Music Braille Project

Dr Sarah Morley Wilkins

Project Manager &
User Experience Consultant

musicbraille@daisy.org
<https://daisy.org/music-braille>

Tactile Reading

Digital conference 29th and 30th April 2021



A close-up photograph of a person's hand with fingers spread, resting on a surface covered in Braille dots. The image is partially cut off by a curved white border on the right side.

Overview

1. Background and sector needs
2. Our strategic interventions:
 - Improving file format standards
 - Improving 2 kinds of conversion tools:
Professional; and an Interactive User Tool
3. The future

1. Background and sector needs

- Agencies preparing for the future
- Declining expertise
- Tools and file formats needed improvement
- Lack of opportunity for file-sharing
- Global sector consultation
- Sector report 2018
- Embossed braille still vital





Areas of concern

1. High quality input files
2. Tools must be accurate and reliable, for transcribers and end-users
3. Access to intermediary files
4. Teaching, learning and promotional resources

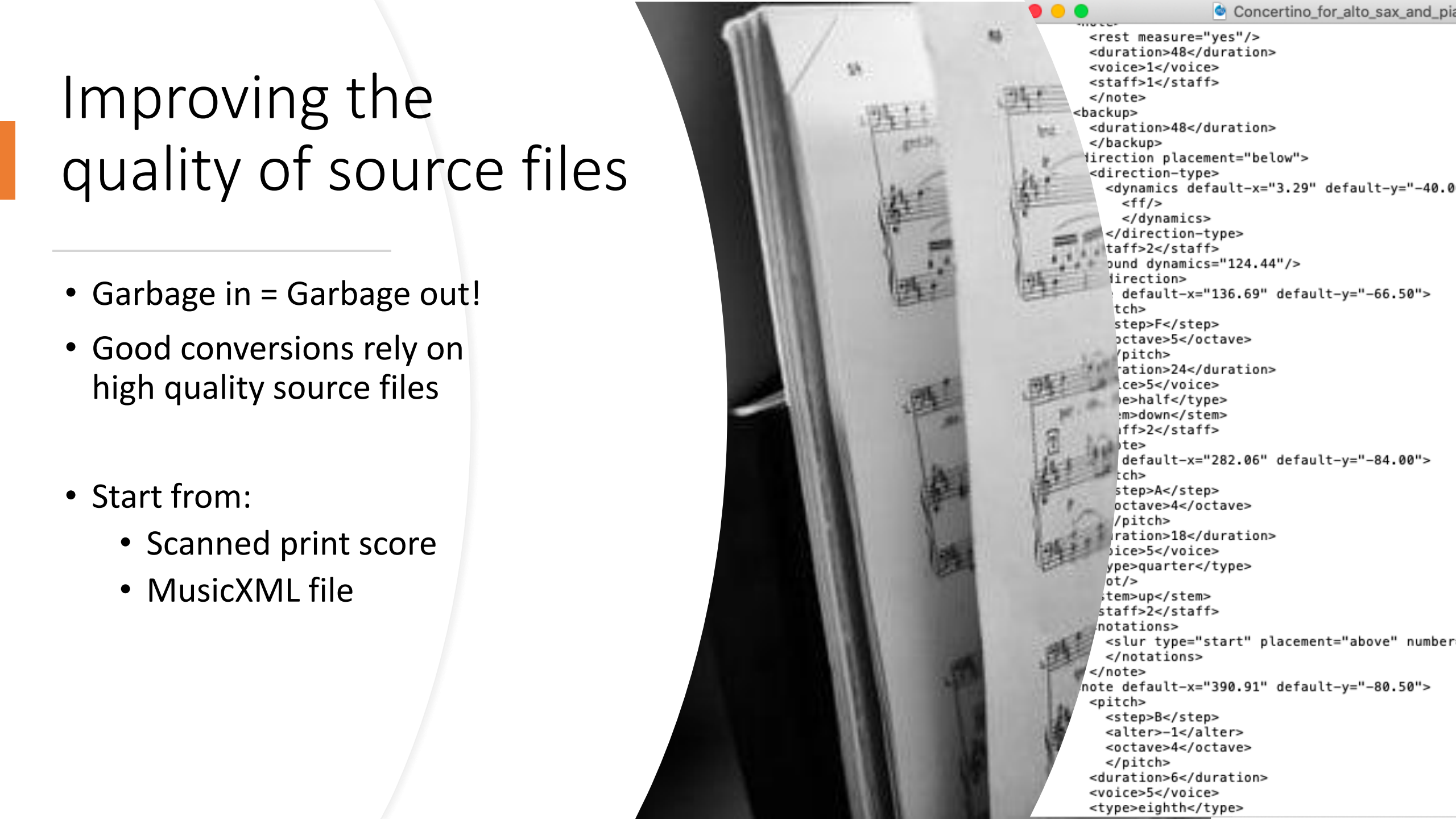
2. Our strategic interventions

1. Improving file format standards:
to improve the quality of source files
giving better conversions
2. Improving conversion tools:
so they are accurate and reliable,
fit for purpose, and for worldwide use

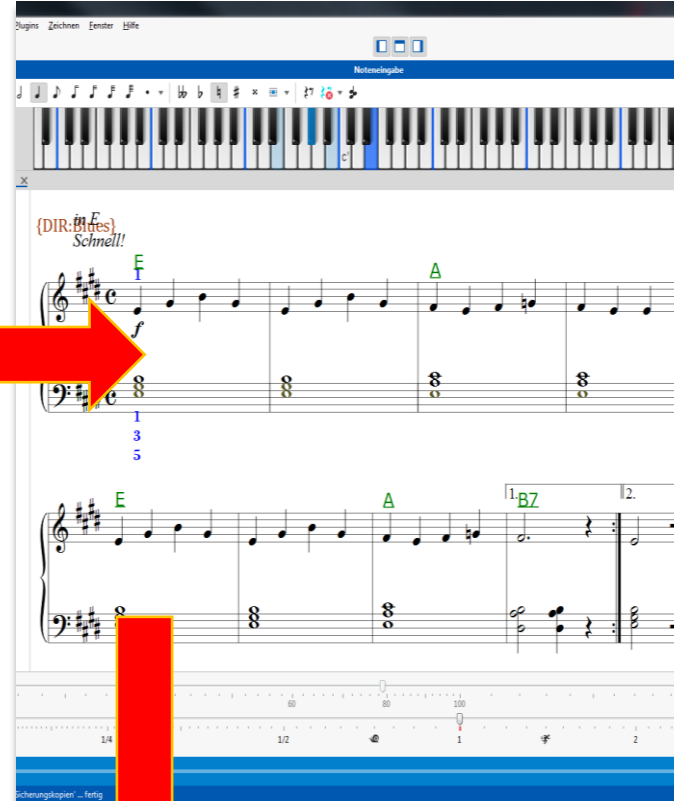
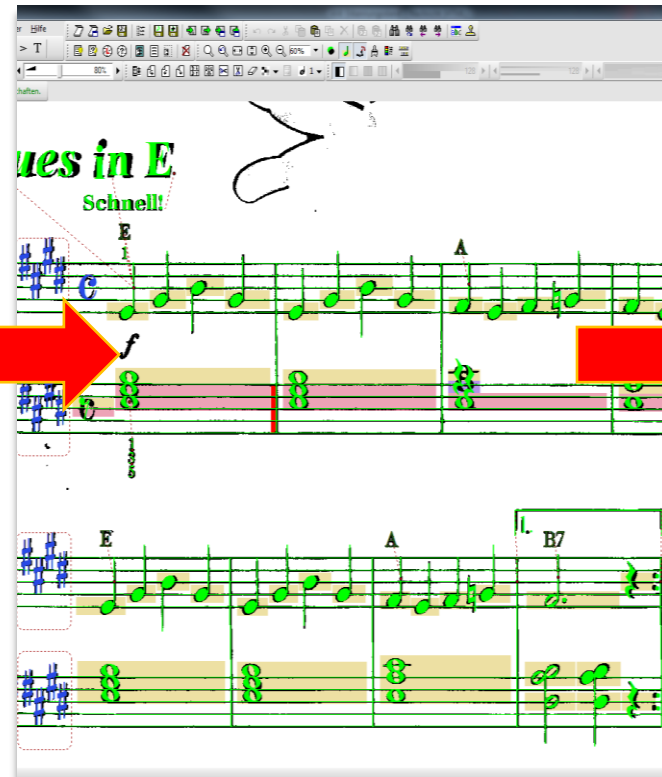


Improving the quality of source files

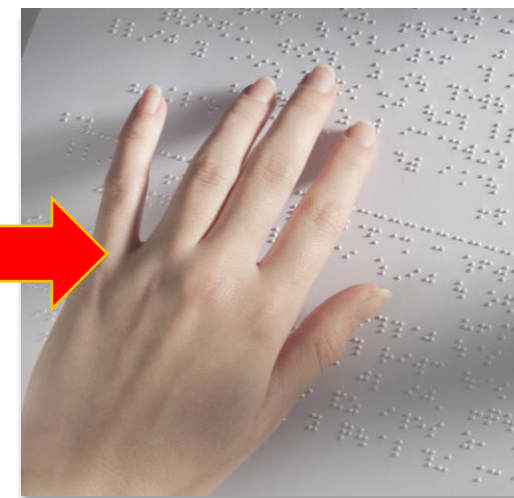
- Garbage in = Garbage out!
- Good conversions rely on high quality source files
- Start from:
 - Scanned print score
 - MusicXML file



```
<rest measure="yes"/>
<duration>48</duration>
<voice>1</voice>
<staff>1</staff>
</note>
<backup>
<duration>48</duration>
</backup>
<direction placement="below">
<direction-type>
<dynamics default-x="3.29" default-y="-40.0">
<ff/>
</dynamics>
</direction-type>
<staff>2</staff>
<sound dynamics="124.44"/>
<direction>
<default-x="136.69" default-y="-66.50">
<step>F</step>
<octave>5</octave>
</pitch>
<duration>24</duration>
<voice>5</voice>
<type>half</type>
<stem>down</stem>
<staff>2</staff>
</note>
<note default-x="282.06" default-y="-84.00">
<step>A</step>
<octave>4</octave>
</pitch>
<duration>18</duration>
<voice>5</voice>
<type>quarter</type>
</note>
<stem>up</stem>
<staff>2</staff>
<notations>
<slur type="start" placement="above" number="1">
</notations>
</note>
<note default-x="390.91" default-y="-80.50">
<pitch>
<step>B</step>
<alter>-1</alter>
<octave>4</octave>
</pitch>
<duration>6</duration>
<voice>5</voice>
<type>eighth</type>
```



Scan and mark-up



MusicXML files

- Online collections



Not all MusicXML files are suitable

- We need 'good' files with informative structure

```
</dynamics>
</direction-type>
<staff>2</staff>
<sound dynamics="124.44"/>
</direction>
<note default-x="136.69" default-y="-66.50">
  <pitch>
    <step>F</step>
    <octave>5</octave>
  </pitch>
  <duration>24</duration>
  <voice>5</voice>
  <type>half</type>
  <stem>down</stem>
  <staff>2</staff>
  <te>
    <default-x="282.06" default-y="-84.00">
      h>
        <ep>A</step>
        <tave>4</octave>
```



Our interventions

1. Influencing future versions of MusicXML standard via W3C
2. Seeking improvements in MusicXML export from notation tools
3. Providing guidance on marking up
4. Setting guidance for music engraving with notation tools

The screenshot displays a music notation software interface. The top window shows the MusicXML code for a piece titled "Concertino_for_alto_sax_and_piano[1].musicxml". The code includes elements for a rest, backup, direction placement, dynamics, and a note. The bottom window shows a musical score for two staves. The top staff is for the alto saxophone, and the bottom staff is for the piano. The score is in E major (three sharps) and common time (C). The tempo is marked "Schnell!". The score includes various musical notations such as notes, rests, and dynamic markings. A handwritten "Z" is visible above the first staff.

```
<rest measure="yes"/>
<duration>48</duration>
<voice>1</voice>
<staff>1</staff>
</note>
<backup>
<duration>48</duration>
</backup>
<direction placement="below">
<direction-type>
<dynamics default-x="3.29" default-y="-40.00" relative-y="-40.00">
<ff/>
</dynamics>
</direction-type>
<staff>2</staff>
<sound dynamics="124.44"/>
</direction>
<note default-x="136.69" default-y="-66.50">
<pitch>
<step>F</step>
<octave>5</octave>
</pitch>
<duration>24</duration>
```



Improving conversion tools



- Need to be accurate and reliable
- Two kinds of tools needed:
 1. Professional tool
 2. Interactive user tool
- Need to be fit for the future and for international use

Requirements for conversion tools

- Reviewed existing tools and sector requirements
- Sector consultation
- Technical Requirements Documents:
prioritized requirements for developers with use cases
- Invited proposals for 2-years of funding

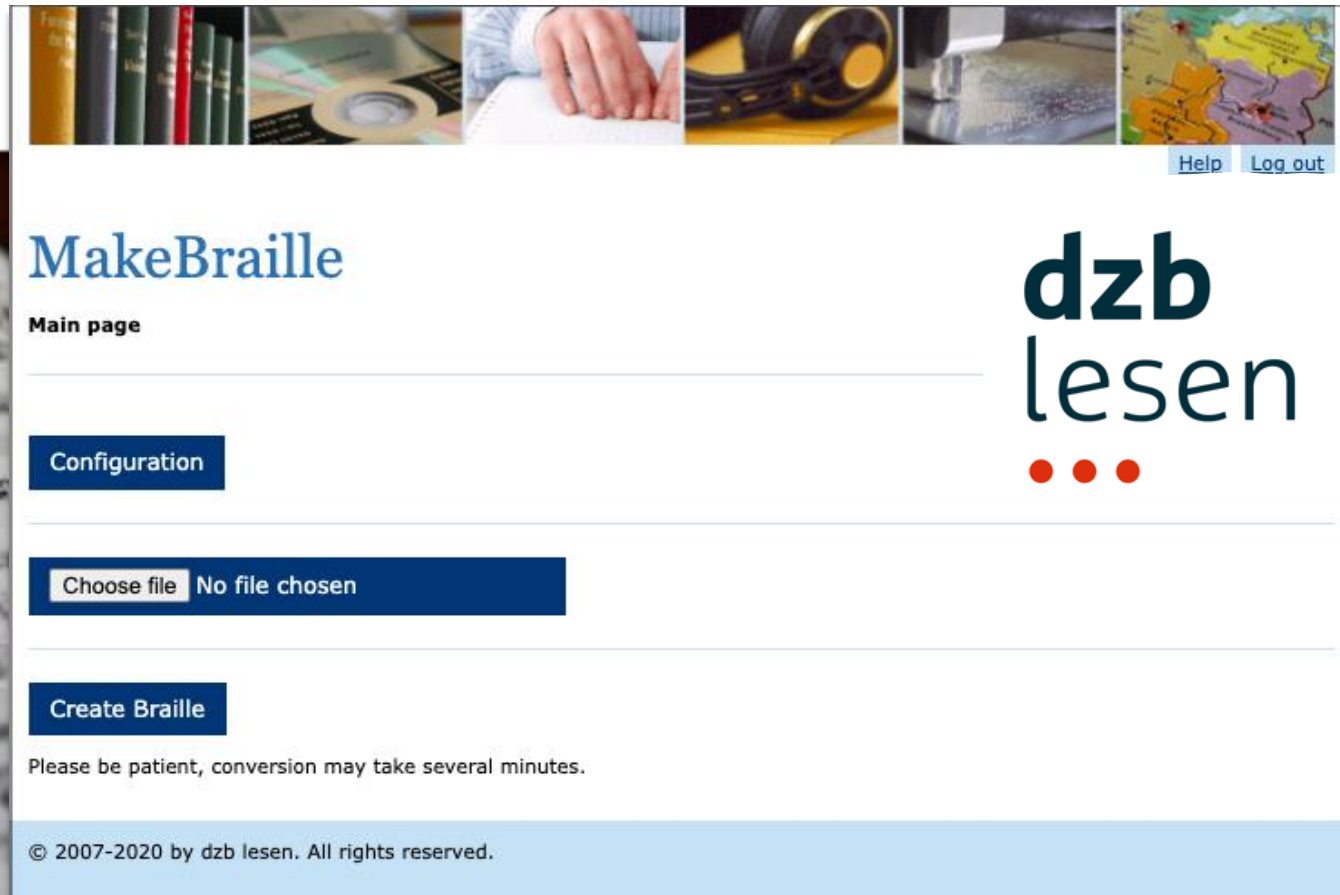


Development of a professional conversion tool

- For agencies, educators, and end-users
- Create scores quickly and accurately
- Workflow integration




MakeBraille: An online professional, automated and accessible conversion tool



MakeBraille

- Already used by 3 agencies in Europe
- Online, easy to use
- Creates music Braille from capella (Capx) and MusicXML files
- Converts most score types
- For education, work and leisure
- Can be used worldwide
- Workflow integration



MakeBraille
Main page

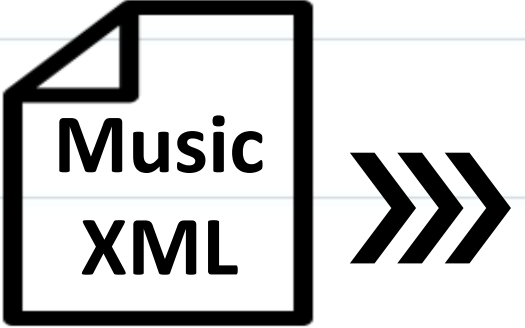

Configuration

Choose file No file chosen

Create Braille

Please be patient, conversion may take several minutes.

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Set configuration, choose file, create braille

Country and embosser settings

Country encoding and formatting ①

If you need any amendments to your country code/formatting settings please [contact us](#).

- ☐ Brazil
- ☐ Czech Republic
- ☐ Denmark
- ☐ Finland
- ☐ France
- ☐ Germany
- ☐ Hungary
- ☐ Italy
- ☐ Netherlands
- ☒ North America
- ☐ Norway
- ☐ Poland
- ☐ Russia
- ☐ Spain
- ☐ UK

☐ UTF-8 ①

Braille line length ①

Cells per line:

Score settings

Score type ①

- ☒ Full score ①
- ☐ Choral score ①
- ☐ Part by part ①

Braille text format

- ☐ Contracted ①
- ☒ All uncontracted ①
- ☐ All contracted ①

Score formatting ①

- ☐ Section by section ①
- ☐ System by system ①
- ☐ Page by page ①
- ☒ Bar over bar ①

Transcription settings

Show ①

- ☒ Fingering
- ☒ Slurs
- ☒ Dynamics
- ☒ Articulation
- ☒ Ornaments

Presentation

- ☒ Repeats / Simile ①
- ☒ Doubling ①
- ☐ Create a Braille score for a blind teacher with sighted students ①
- ☐ Pronunciation guide to foreign characters ①

List of symbols ①

- ☐ Define all symbols used in the score
- ☐ Define less common symbols
- ☒ Define only very rare or instrument-specific symbols
- ☐ No list of symbols

Return my converted file to ①

E-Mail:

The converted music Braille is returned to you

[MakeBraille] 8-Danny.txt music Braille file



no-reply@dzblesen.de

To:



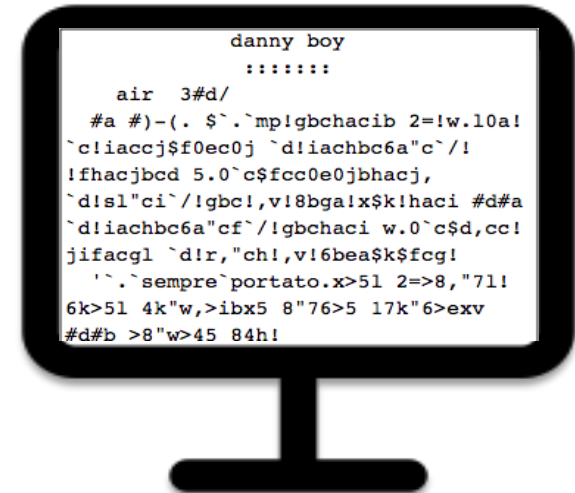
Download All



Preview All

Thank you for using MakeBraille from dzb lesen to create your music Braille file.
Please find attached your converted file ready to emboss, or to read on a Braille display.

If you have any comments or questions about your file or our service please contact us at dacapo@dzblesen.de.
Please do not reply to this email.





Emboss or read on a
braille display



Help and support area



Welcome to our MakeBraille Support Area

Providing help and advice for using MakeBraille - the online automated music Braille conversion tool developed by dzb lesen - helping you to create music Braille files automatically from MusicXML files and from capx files (print scores scanned using capella software).

We have grouped these help topics in a suitable order for new users. If there's something you need help with which we haven't covered in these pages, please [email us](#) and we'll be happy to help.

What is MakeBraille, and how do I use it?

📖 [MakeBraille](#) is an online automated conversion tool, which creates music Braille files from MusicXML files and from capx files (print scores scanned using capella software).

The process can be as simple as:

1. setting your configuration options (you may only need to do this once),
2. selecting and uploading your file for conversion, and
3. receiving your converted file by email, ready to emboss or read on a Braille display.

📖 [What's new in the latest version of MakeBraille](#)

Read what's changed in recent updates.

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How to use MakeBraille
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Coming in 2021

- Closed trial continues
- More customization and control of parts
- User profiles
- Setter Tool (for PEF & PDF)
- HTML5 Viewer and MIDI output
- Contracted braille
- Tablature conversion
- More guidance for users



Development of an interactive user tool

- For blind musicians and educators
- To create, explore and output music in multiple accessible ways:
 - musical notes, spoken text, on-screen, print, braille
- Customization
- Prioritized Requirements and use cases
- Invited proposals for 2-years of development





MuseScore and Sao Mai Braille

Will give a fully accessible
notation and editing
experience



MuseScore

- Leading mainstream, free, open source, music notation program
- Outputs as sound, print and modified stave notation

Planned development:

- increase accessibility
- improve MusicXML export
- connect with SMB braille functionality

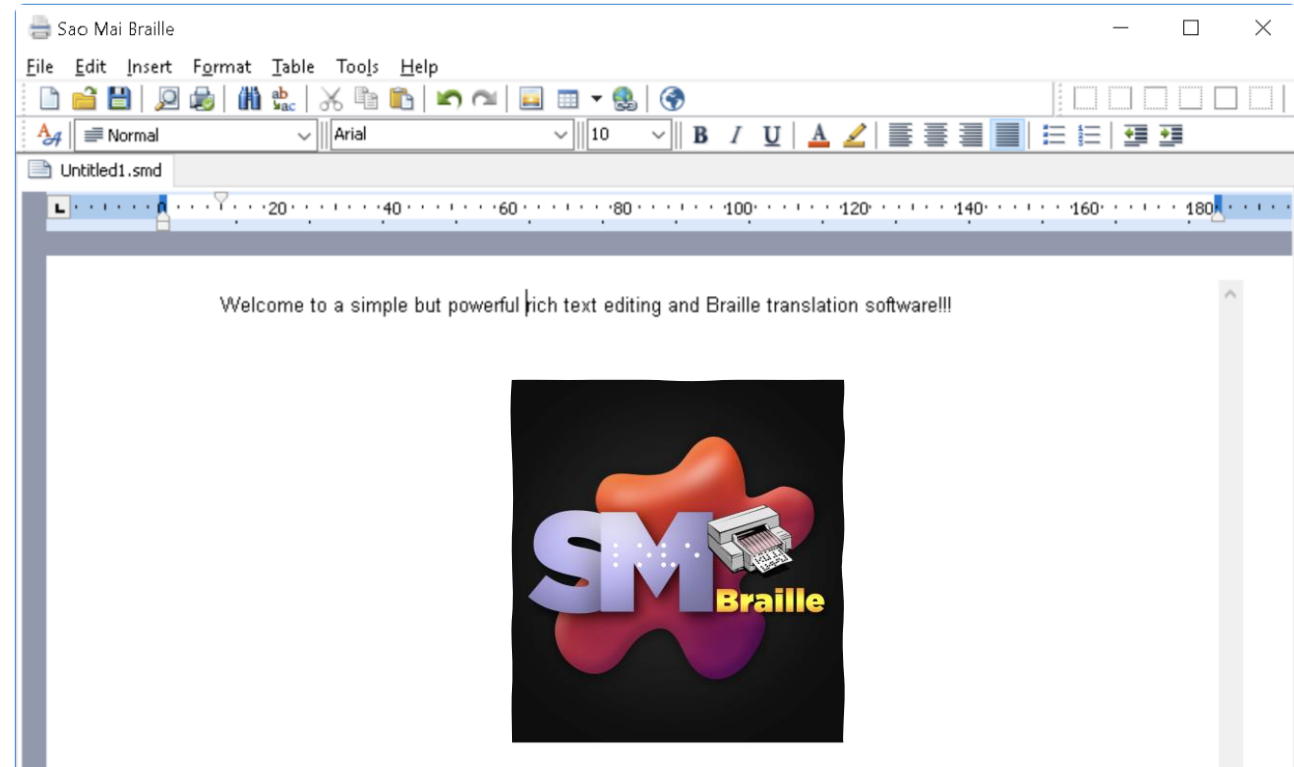


SMB: Sao Mai Braille

- Existing braille converter
- MusicXML reader app

Planned development:

- add music braille conversion
- convert MusicXML and MuseScore files
- Windows program and web service
- available directly, and within MuseScore
- live braille preview in MuseScore
- 6-key braille input in MuseScore





Project goals by end 2022

A fully accessible, interactive, mainstream music notation and editing experience for Windows and MacOS users



3. The future

Aim: more people get braille scores more easily and in a timely manner

- Increase numbers of transcribers and teachers
- More teaching and learning resources
- Collections of high-quality source files
- Rationalize layouts and customization options
- Trials with new braille displays
- Artificial intelligence?
- Ongoing collaboration/networking
- Confidence in the future of music braille



Thanks

<https://daisy.org/music-braille>

musicbraille@daisy.org

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- SBS, Switzerland
- Vision Australia, Australia

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