



MusicXML: the key to accessible music publishing

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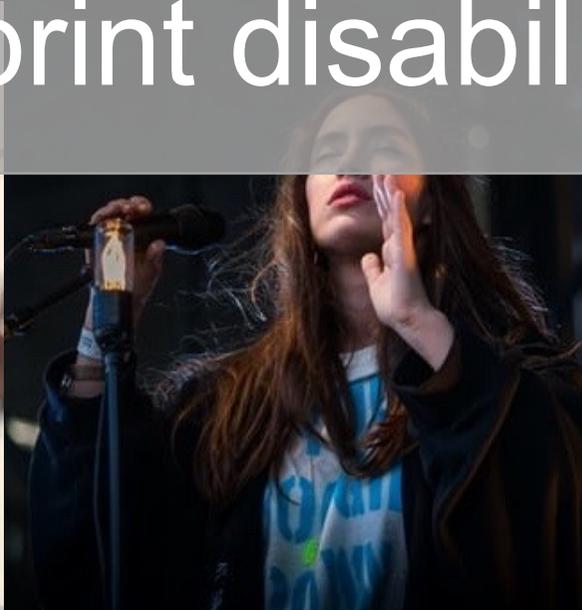
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Thanks to: Haipeng Hu (DAISY), James Bowden and Jay Pocknell (RNIB)





Musicians with print disabilities

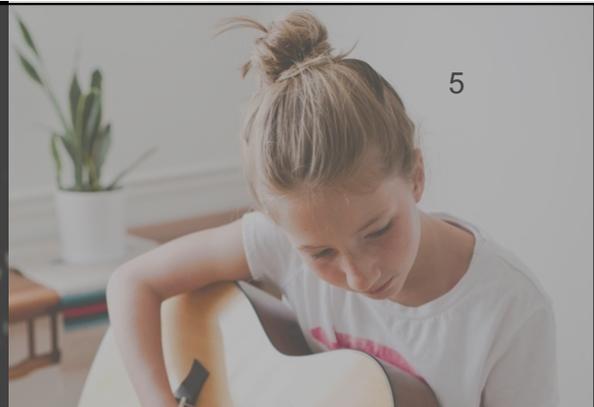


A person who cannot effectively read print because of a visual, physical, perceptual, developmental, cognitive, or learning disability. Kerscher, 1989

✗ Print or PDF



✓ Braille, large print, screenreader



MusicXML is the key to all these formats



A collaborative publishing revolution



“to make significant steps toward creating lasting, industry-wide change for those who require alternative print formats.”



“to establish a more universally accessible printed music format from the outset.”



“...the importance of making music content fully accessible to ensure everyone, regardless of ability, can engage with and benefit from it.”

The DAISY Consortium

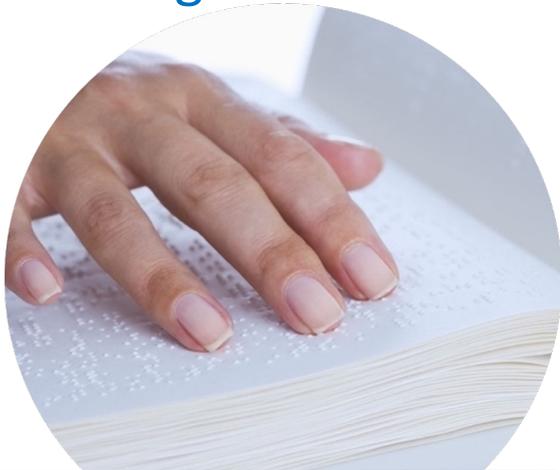


- International non-profit membership organization
- Improving access to reading for people with print disabilities
- Leads standards and good practice in accessible digital publications
- Works with technology companies and standards agencies on reading and publishing technologies

- Special workstream on accessible music
- Working alongside the Royal National Institute of the Blind (RNIB)

Accessible music formats

Hard-copy and digital braille



Modified Stave Notation

p8. All We Like Sheep 20mm
Allegro moderato

f

3 All we like sheep
4 all we like
5 sheep have gone a - stray
6 all we like sheep,

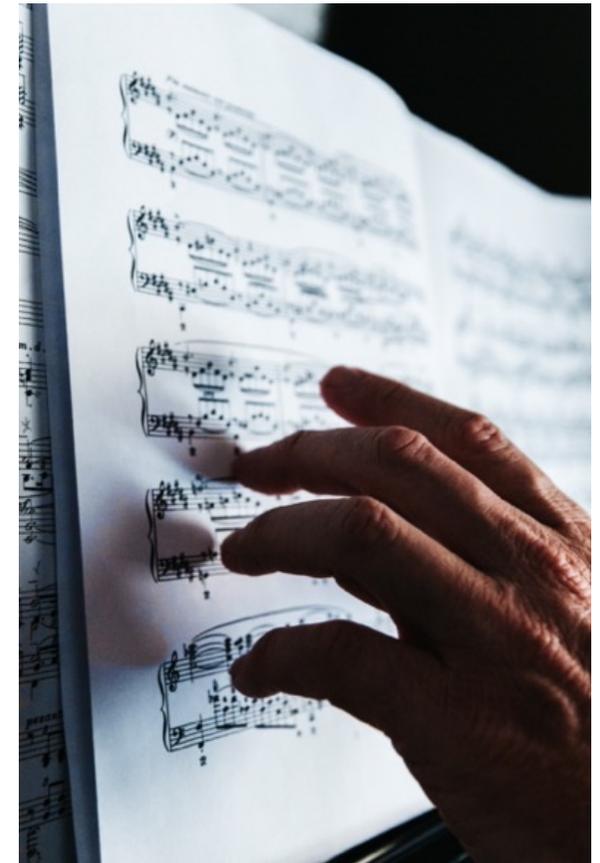
The image shows a page of musical notation for the hymn 'All We Like Sheep'. It features a treble clef, a key signature of one flat (B-flat), and a 2/4 time signature. The tempo is marked 'Allegro moderato' and the dynamic is 'f'. The lyrics are written below the notes. The notation is modified to be more accessible, with some notes and rests represented by simple shapes and lines.

Notation tool with screen-access technology (speech and digital braille)



The score famine

- ❑ Global shortage of accessible scores
- ❑ Very low numbers of scores available in accessible formats e.g. braille, Modified Stave Notation
- ❑ Time-consuming, costly, scarce expertise
- ❑ Significant barrier to education, leisure and work
- ❑ Legal implications for distribution in USA and EU



Obtaining an accessible score now

 **Print score or PDF from publisher:** not readable

 **Library for the Blind / Volunteer transcriber:**

- manual retyping into braille, scanning with OMR and editing, re-engraving
- time-consuming, specialist, costly = extremely limited

 **Increasing use of online digital scores:** low accessibility, unreliable quality

 **Musicians expecting digital access:** young & aging musicians

 **Follow the book sector:** embrace accessibility

Sector collaboration and advances

Through the DAISY Music Braille Project:

- ❑ Improved MusicXML file format standard
- ❑ Notation tool accessibility, better MusicXML export
- ❑ Automated converter tools for braille and Modified Stave Notation
- ❑ DAISY Engraving Guidelines
- ❑ Accessible Music Publishing Action Group



The solution for accessible music publishing

‘Born accessible’ scores: created with accessibility in mind

- 1) Create a high-quality notation score, following the DAISY Engraving Guidelines
- 2) Export to MusicXML

Notation file



MusicXML file

```

</duration>40</duration>
</backup>
</direction placement="below">
<direction-type>
<dynamics default-x="3.29" default-y="-40.00" rela
<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>
<voice>5</voice>
<type>half</type>
<stem>down</stem>
<staff>2</staff>
</note>
<note default-x="282.06" default-y="-84.00">
<pitch>
<step>A</step>
<octave>4</octave>
</pitch>
<duration>18</duration>
<voice>5</voice>
<type>quarter</type>
<dot/>
<stem>up</stem>
<staff>2</staff>
<notations>
<slur type="start" placement="above" number="1"/>
</notations>

```

Music XML: a flexible format

- ❑ Pivot/intermediary file format
- ❑ **Immediately** ready to read, convert, adapt
- ❑ Ground-breaking!
- ❑ Minutes, not months
- ❑ Recommend that publishers provide MusicXML files, not accessible formats



p8. All We Like Sheep 20mm
Allegro moderato

f

3 All we like sheep

4 all we like

5 sheep have gone a - stray —

6 — all we like sheep,

 A musical score for the hymn "All We Like Sheep". It features a treble clef, a key signature of one flat (B-flat), and a 2/4 time signature. The tempo is marked "Allegro moderato" and the dynamic is "f". The score includes six staves of music with lyrics underneath. The lyrics are: "All we like sheep", "all we like", "sheep have gone a - stray", and "all we like sheep,".

The process of 'born accessible' publishing

1. Engrave a 'good' music notation file

- Use latest software and good practice
- Follow DAISY Engraving Guidelines

2. Export to MusicXML

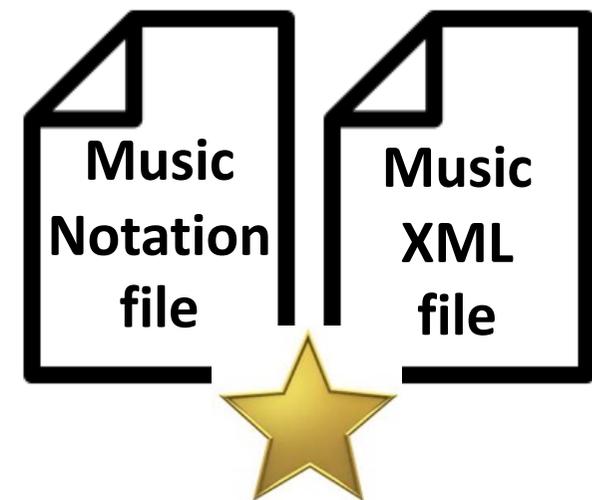
- Use latest Dolet plugin for Sibelius

3. Continue to print/digital publication

- Keep content consistent
- Re-export if edits are made

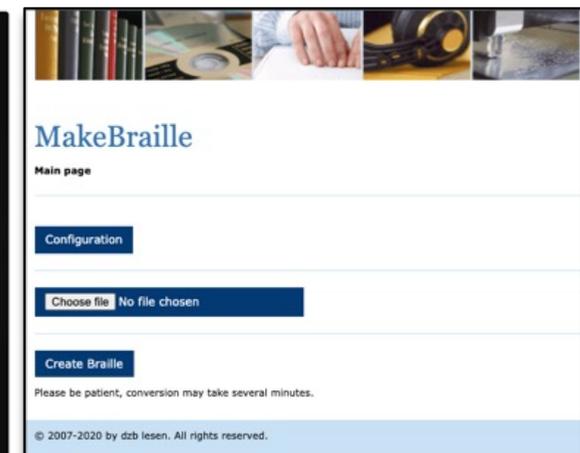
3. Hold the final MusicXML file

- Publisher/composer keeps safe
- Provide to musicians with print-disabilities with notation file/PDF for proof-reading



Tools

- **Mainstream notation tools**
 - MuseScore Studio (free)
 - Sibelius
 - (Finale)
- **Automated converter tools (non-profit)**
 - Sao Mai Braille "SMB"
 - MakeBraille
- Essential to proofread/check



What will users do with the MusicXML file?

MusicXML file

```

    <duration>40</duration>
  </backup>
  <direction placement="below">
    <direction-type>
      <dynamics default-x="3.29" default-y="-40.00" rela
        <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>
  <voice>5</voice>
  <type>half</type>
  <stem>down</stem>
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</note>
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  <pitch>
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  <stem>up</stem>
  <staff>2</staff>
  <notations>
    <slur type="start" placement="above" number="1"/>
  </notations>

```





Make music!



Get involved:

Accessible Music Publishing Action Group

- ❑ AMPAG: cross-sector action group, led by DAISY and RNIB
- ❑ Collaboration: music publishers, engraving services, and producers of accessible format materials
- ❑ Provide sustainable, equitable access to music scores
- ❑ Incorporate 'born-accessible' files into workflow and distribution



RNIB
See differently

Publishers and engraving services

- ABRSM
- Boosey & Hawkes
- ChoirCommunity
- Hal Leonard
- Hymns Ancient and Modern
- Multitude of Voyces
- My Sheet Music Transcriptions
- OUP
- Publishing Accessibility Action Group
RSL Awards
- Schott Music
- Stainer & Bell
- Taylor and Francis (incl Routledge)
- Universal Edition
- Wise Music Group (incl Novello,
Chester Music, Edition Peters)

Producers of accessible format materials

- UK: British Dyslexia Association
- UK: RNIB
- International: DAISY Consortium
- Netherlands: Dedicon
- Spain: ONCE
- Switzerland: SBS
- USA: FMDG
- USA: NLS
- USA: University of North Carolina
(Temple Hill)

Areas of collaboration

- ❑ Policy development
- ❑ Workflow for new publications / updating back-catalogue titles on request
- ❑ Digital and print consistency and QC
- ❑ Develop expertise in file creation

Challenges:

- ❑ Music textbook conversion / creation
- ❑ OMR tools inadequate



The benefits of accessible music publishing

- ❑ Create once, publish everywhere
 - MusicXML is a flexible, portable, pivot file
- ❑ Increase customer base in all territories
- ❑ Provide equity and comply with US/EU legislation
- ❑ Upskill composers/engravers/editors, generate consistent scores
- ❑ Reduce complexity and cost of handling individual customer requests (vs provision of hard-copies)
- ❑ MusicXML poses very low risk of abuse
- ❑ Direct distribution / library of the blind



Help shape the publishing revolution!

- ❑ Join the collaboration at AMPAG
 - ❑ Adopt DAISY Engraving Guidelines
 - ❑ Send us files for review and feedback
 - ❑ Review your workflow: commissioning to publication
 - ❑ Prepare your policy
-
- ❑ Web: daisy.org/accessiblemusicpublishing
 - ❑ Email: musicbraille@daisy.org

