‘Music Braille Production Network’:

A revised proposal for a Global Virtual Competence Centre for Music Braille

# From SBS and the DAISY Music Braille Project

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# 1. Rationale

Securing the future of music braille production is a challenge for many agencies worldwide, and the main purpose of the DAISY Music Braille Project (<https://daisy.org/music-braille>).

The rapid decline in music braille expertise in agencies and schools is a major concern. Even with improved and partially automated conversion tools (e.g. MakeBraille) and improvements to file formats (e.g. MusicXML), knowledge of music braille transcription is still necessary for mark-up, conversion and proof-reading, in addition to training and supporting users.

Some agencies do not currently have music braille expertise at all, and rely on other agencies for their production. Those agencies wish to protect their expertise and ensure sufficient demand to keep skills alive.

Furthermore, the demand for music braille can vary throughout the year (e.g. very high at times of exams, new academic terms, concert seasons) when resources may be exceptionally stretched, but relatively low at other times.

Music braille requests vary from simple to complex scores, vocal, choral, orchestral and instrumental, through to long music textbooks containing literary braille interspersed with music braille. Different agencies may have specialisms in music braille for some/all of those music types.

The DAISY Music Braille Project is currently focussing on improving file format standards and conversion tools for music braille production, but the project also recognises the need to share knowledge and expertise across this niche sector if these skills are to survive.

SBS conducted a survey of producers during 2020 and 2021, and gathered initial support for this idea, so here is a more detailed proposal for consideration.

We would be keen to trial this process with a few interested producers, so we can assess/refine the proposals and collect feedback, with a view to making the network available more widely.

# 2. The idea and initial sector feedback

During the early meetings of the DAISY Music Braille Project, SBS proposed an idea which they called a ‘Global Virtual Competence Centre for Music Braille’.

This was envisaged to be a worldwide network of competent music braille producers who would form a pool of music transcribers who could outsource work between themselves on behalf of their end-users.

SBS made a presentation at the DAISY Music Braille Project Meeting in May 2019 outlining their initial idea, which was met with positive responses. SBS continued to work on their idea and surveyed the sector to explore the issue in more depth.

Not all agencies/transcribers responded to the survey, so this can’t be viewed as a comprehensive response from the sector, but it does demonstrate a level of interest which SBS felt warranted further exploration, and the DAISY Music Braille project agreed to help.

# 3. Results of the first survey

## Q1 and 2: Agencies/individuals

Eight organisations responded (as well as three private individuals):

* ICEB Music Committee Canada
* ONCE Spain
* Dedicon Netherlands
* BIC Italy
* Vision Australia
* BrailleOrch China
* Golden Chord UK
* Menvi California (Music Education Network for The Visually Impaired)

## Q3: Willing to participate as a Producer?

Six organisations said they would be interested in participating as Producers:

* ONCE (through the Marrakesh Treaty)
* BIC
* Vision Australia
* Dedicon
* Golden Chord
* BrailleOrch

### Q3.1 Knowledge of MusicXML?

Five organisations said they had knowledge of MusicXML:

* BIC
* Golden Chord
* BrailleOrch
* Vision Australia
* Dedicon

### Q3.2: Knowledge of music notation programs (e.g. Capella, Sibelius)?

MuseScore was the most commonly mentioned music notation program:

* 3 MuseScore
* 2 Sibelius
* 1 Capella
* 1 BrailleMuse
* 1 Braille Music Editor

### Q3.3: Knowledge of music braille production?

All organisations had knowledge of music braille production.

### Q3.4 Which braille formats are you able to provide?

* 4 - All formats
* 3 - Section by Section only
* 1 - Bar over Bar only

### Q3.5: Knowledge of music braille proofreading?

All organisational respondents had knowledge of music braille proofreading.

### Q3.5: How many human resources can you make available for the global centre (e.g. in full-time equivalent percentages)?

* Organisational responses indicated a range of FTE (full-time equivalent) from 0.25% to 200%.
* Just from these 8 organisations, this made a total pool of around 600% capacity for music braille production.

## Q4: Are you interested in participating as a customer?

All but one organisation responded positively, as well as most individuals, to obtain scores more easily and more quickly.

### Q4.1: Which braille format(s) would you order as a customer?

* 3 - All formats
* 4 - Bar over Bar only
* 2 - Section by Section only

### Q4.2 What kind of material would you mainly request as a customer?

E.g. instrumental scores, vocal scores, books consisting of text and music examples.

* 6 All types of materials
* 1 Instrumental and vocal only
* 1 Instrumental only

## Q5: Would you be interested to be a coordinator of this service?

* Three organisations and 2 individuals responded positively to this question, depending on what it involved.
* One commented that perhaps they could coordinate neighbouring countries for example.

## Q6: What ideas do you have about how financing/pricing model could work?

* Annual subscription
* Private and public funding
* Pay for the cost of each score ordered
* An hourly labour rate, which is at least cost-recovery
* Keep financial transactions as straightforward as possible (electronic)
* Free to use

## Q7: Are you interested in participating in a working-group on a business/pricing model?

* 7 respondents were willing to participate to discuss options for how the model could operate.

## Q8: What advantages/opportunities do you see for your organisation in having a global virtual competence centre for music braille transcription?

* Promotion of musical activities in my country
* Increase opportunity to enrich the collection of music braille scores available
* Undertake paid commissions to produce music braille
* Demonstrate my value as a blind musician to contribute transcriptions
* National interest in obtaining scores for agencies and individuals
* A greater collaboration with other agencies
* A greater knowledge of the evolution of music braille, work done in a better way, joining forces to achieve greater goals
* Greater agility in providing access to adapted musical scores and texts
* More resources should provide faster production times and more options for clients
* Provides more flexibility in the way music is transcribed
* Good opportunity to share ideas and more efficient production methods between producers
* Enables more blind musicians to receive music they require
* Avoid duplication
* Sharing knowledge and resources

### Q8.1 Do you foresee any difficulties for your organisation in taking part in a global virtual competence centre for music braille transcription?

* Cannot yet foresee how much my organisation is willing to invest in terms of money and human resources
* I can’t do plainchant, guitar and accordion transcriptions
* None
* Certainly organizing the work of several entities will require a first phase of coordination, but we believe that the possibilities available are many more than the difficulties of organizing and starting to proceed with the activities
* We can only share files under the Marrakesh Treaty
* Financial implications if we do not charge cost-recovery; need to consider country time differences with urgent jobs; different formatting requirements between countries; reduced availability of resources for our own clients during periods of high demand
* Only that unrealistic deadlines might be requested

## Q9: Do you have any other proposals and/or questions?

* Let’s have a discussion about the business model and workflow that will meet our demands
* ABC is a good and free platform, under the warranty of the OMPI to provide access to files and to share them.
* Would you contact publishing houses to obtain editable files, eg. XML, directly from publishers?
* Would you provide compilations of addendums from each country to understand country specific standards and formatting?
* How many Music Braille transcription programs would be used? Will the ones employed produce access to music scores that are classical, sacred, gospel, and, folk repertoire as well as music education materials at all levels of study?
* Will the productions be readily available to each customer once the coordinator has contacted a place where orders are to be transcribed, and then, produced in Music Braille that meets the BANA 2015 standards to enable these BRFs to be downloaded by the individual who has placed the order?
* How much will each order cost or is this a question for the business/pricing model working group to decide in the future?

# 4. Goal of a Global Virtual Competence Centre (now Music Braille Production Network)

* So agencies can outsource music braille transcription, and agencies can share their capacity and expertise with agencies who need it
* To create a slim process, as independent as possible
* Low-cost or no-cost process (low or no overheads and automated if possible)
* Fits with existing production workflows
* Complies with Marrakesh Treaty and Copyright laws

# 5. The benefits

* DAISY members have a range of trusted competent music braille producers with diverse specialities available to them through an effective, streamlined service. (Perhaps non-DAISY members could pay a registration fee to access the service.)
* The process is similar to other production workflow solutions for accessible formats, but makes it easier to find specialist services for music braille.
* Producers can charge their own fees (alternatively, participating Producers could agree a ‘standard charging structure’ for this activity only to bring fees more in line with each other).
* Trusted engravers can be secured, producing high-quality digital source files suitable for conversion into music braille.
* Complies with copyright legislation, as only Trusted Agencies are participating from participating countries.
* Music braille works produced can be listed/added to online collections for others to use without additional charge.
* Reduces duplication of effort.
* Shares knowledge, expertise and capacity to keep skills alive around the globe.
* Keeps music braille transcribers connected in a network.

# 6. How it might work (overview)

Written here in words, and illustrated in the following flowchart.

1. Music Braille Producers (‘Producers’) sign up to the Network on Registration Form detailing what they can offer.
2. End-user makes a request through their local Agency.
3. Order Form is completed by the Agency (the ‘Requesting Agency’), to include source file and intended use, or specifies they need the Producer to source the score. Requesting Agency does as much source file preparation they can before sending out for quote.
4. Requesting Agency sends Order Form to the ‘Central Service’ (e.g. email address/web form).
5. Central Service alerts Producers of a new Order, setting deadline for responses.
6. Producers review Order Form, and confirm to the Central Service if they have it/can look for it /or produce it, and which charging rate it would be (Basic/Advanced).
7. Central Service notifies Requesting Agency of responses received by the deadline.
8. Requesting Agency reviews responses and selects one Producer on the Central Service.
9. The Central Service notifies selected Producer and confirms to other Producers that the job has been allocated.
10. The Selected Producer looks for an available music braille score, and if found, returns it to the Requesting Agency, charging a Finders Fee. If no suitable score is available, they announce intention to produce the score, completes the job, in liaison with the Requesting Agency (and/or end-user) if required. They will charge the Basic/Advanced fee as previously determined, and send embossed score and/or digital file to the Requesting Agency/end-user are per the Order Form.
11. Requesting Agency lists/adds the scores produced to online collection for reuse; and reports production as part of their normal Copyright processes.
12. Requesting Agency seeks user-feedback and returns this to the Producer.
13. Producer invoices Requesting Agency to cover all costs (quarterly/annually).

# 

# 7. How it might work (in more detail)

1. Agencies with music braille production expertise and capacity sign up with the transcribers they have, and freelance transcribers could also participate. Called ‘**Producers’** in this process, they would indicate their specialist skills and services and terms on a ‘Registration Form’ when they sign up, which all agencies will be able to see on a dedicated webpage.
2. An end-user makes a request of their local agency/transcriber (called the ‘**Requesting Agency**’ in this process, and together they complete an ‘Order Form’ specifying their requirements. Requesting Agencies should follow their normal practice of checking existing availability before seeking external production, e.g. on agency catalogues; ABC Global Book Service; BookShare; MuseScore; BrailleOrch; MusicXML.org; etc. We could create a list of places to search to assist with this discovery phase.
3. The Order Form should where possible include a high quality source file (as PDF/MusicXML, capx), or at least full details of the score for the Producer to locate.

3.1 The Order Form must also include other details e.g. information about what the score is to be used for, deadline, how much score preparation the Requesting Agency has already been able to do, and how much the Producer has to do, how to format it, whether it should be proofread more than once, which ascii code, how to handle volumes and parts, page setup, binding, embossed or sent as a digital file and so on. Also, whether it is acceptable to have the job split between different Producers. Note: end-users cannot submit Order Forms to the service directly (yet).

3.2 As much pre-production work should be done by the Requesting Agency as possible (e.g. obtaining the source, scanning and mark-up), and stated on the Order Form, as this will determine what steps need to be undertaken by the Producers, and which Producers could do the work. We could make guidance available to help Agencies source and prepare files.

1. The Requesting Agency sends the Order Form to the ‘Central Service’ (e.g. an email address or web page) giving a suitable deadline for responses to cater for different time zones.
2. The Central Service notifies all registered Producers (or if possible, just to those Producers who match the fields selected in the Order Form). This process could be as simple as an email (or web) forwarding service, or it could be a person acting as independent administrator for the service.
3. Producers review the Order Form, and respond to the Central Service by the given deadline: do they have the score already, could they search for it, or could they produce it – and if so, whether the job would be charged at Basic or Advanced rate.
4. The Central Service notifies Requesting Agency of all responses received by the deadline.
5. The Requesting Agency reviews all responses from Producers, and chooses one via the Central Service.
6. The Central Service notifies the selected Producer that they have the job, and notifies other Producers that the Order has been allocated, so other Producers know the Order is no longer open.
7. From then on, the Producer fulfils the Order, in liaison with the Requesting Agency/end-user if required.   
     
   10.1 The Producer creates the music braille with whatever method is needed to fulfil the order, and may involve just a Finder’s Fee, or a Basic or Advanced fee depending on how much work is involved in the job.  
     
   10.2 The Producer should first search for an available score and if available, they can send it straight back to the Requesting Agency (for a Finder’s Fee). Or they may have to create a score ready to transcribe (with a Basic or Advanced Service).

10.3 Transcription could be manual, and/or using automated tools.

10.4 An order may require two proofreading stages, or just one, depending on the type of material, or the purpose of the material, to be specified on the Order Form/Producers’ responses.

10.5 Large or complex jobs could be split up across several Producers (e.g. one Producer arranges to have the score engraved before they can transcribe it; or one Producer does pieces 1-100, the other 101-200; or one Producer scans and marks up the file, the other embosses a hard copy). Note: it is very complex to integrate the components of a music text book together when produced by different producers, and in this case it may be preferable to advise the user to accept two volumes, one of the text and another of the music, which can be produced by different producers.   
  
10.6 The Producer may return a digital file to the Requesting Agency or end-user if that is what was requested on the Order Form. And/or they may emboss a hard-copy score which can be posted back to the Requesting Agency or to the end-user.

1. Scores produced through this process (e.g. source, intermediary and resulting files) should be held securely by the Requesting Agency (and perhaps also by the Producer), under Marrakesh rules.

11.1 The Requesting Agency should also list/upload the final files to an agreed online collection for others to use (e.g. their own catalogue, ABC Global Book Service, BookShare, or we could develop our own collection). It should have sufficiently helpful metadata (e.g. to include producer, format, language, level of quality etc).

11.2 The Requesting Agency should also report the production as part of their normal Copyright processes.

1. Agencies should seek user-feedback and report this to the Producer to help improve other productions. This feedback could include e.g. Was it easy to use for the intended purpose? Errors? Improvements suggested?
2. On an annual/quarterly basis, the Producer raises an invoice to the Requesting Agency for payment, for a Finder’s Fee, or a Basic/Advanced Service for each job completed.

# 8. Pricing model proposed (actual $ rates to be agreed)

**Finder’s Fee: $ a 1-hour fee**

When a Producing Agency is able to search for AND locate the necessary file and return it to the Requesting Agency, without requiring any additional work.

**Basic Service: $ per print page rate**

Producing Agency is able to use an existing quality MusicXML or similar master, which requires standard transcription, but does not require any scanning or mark-up. The file is mostly music and musical texts (i.e. not a musical text book). File is converted using a conversion tool, or manual transcription. One proofread. Digital file is returned to Requesting Agency (no embossed braille).

**Advanced Service: $ per print page rate**

Producing Agency has to create and/or mark-up a source file, which might be checking and correcting a MusicXML file, or created by scanning and marking up a print copy, or having the score engraved into a music notation editor and exported into MusicXML. Transcription may be complex because of the nature of the score, and might be a music text book, with musical examples interspersed with literary text. File is converted using a conversion tool, or manual transcription. Two or more proofreading stages, one against the original. A digital file and/or an embossed copy is returned to the Requesting Agency.

## Comparison Table for Service Levels

|  |  |  |
| --- | --- | --- |
| **Activity** | **Basic Service** | **Advanced Service** |
| Find and send the score if already available (no transcription work needed) | $X flat rate 1-hour Finder’s Fee | |
| OR Production Fee | $Y per print page | $Z per print page |

|  |  |  |
| --- | --- | --- |
| **Service includes:** | **Basic Service** | **Advanced Service** |
| Mark-up a MusicXML score | No | Yes |
| Scan and mark-up a print score | No | Yes |
| Engraving and exporting sore into MusicXML | No | Yes |
| Transcription | Simple | Simple or Complex |
| Type of score | Music scores only | Music scores and textbooks |
| Kind of transcription | Manual or automated | Manual or automated, may require special formatting, e.g. Table of Contents/Cross-referencing between volumes |
| Proofreading | 1 proofread | 2 or more proofreads |
| Result | Digital braille file only | Digital braille file and/or embossed braille copy |

# 9. Next steps – a walk-through trial

Having had one very interesting group call on 22 April, and with the following revisions to the proposed process, we will get ready for a walk-through trial with a few Requesting Agencies and Producers. We hope to iron out any further issues, and begin to discuss the actual dollar rate for the pricing options, and to explore how manual/automated the Central Service could be.

The following have already indicated their willingness to trial the process with us, but if anyone else would also like to join the trial please let us know: [**musicbraille@daisy.org**](mailto:musicbraille@daisy.org)

1. Haipeng Hu (BrailleOrch)
2. NLB
3. NLS
4. RNIB
5. Roger Firman (Golden Chord)
6. SBS
7. Vision Australia

# Appendix 1: Sample Registration Form for Producers

Should include space for Producers to list their specific areas of expertise:

e.g

1. Scanning/OCR work
2. Engraving using notation program
3. Marking up scanned score/MusicXML score
4. Export as Music-XML from engraving/scanning tool
5. Braille translation tool / Manual transcription
   1. Which country code(s)
   2. Which format(s)
   3. Pieces/Music textbooks
   4. Any speciality music
   5. Quality/speed assessment
   6. Willing to discuss needs directly with end-user
6. Creation of audio files to accompany the braille
7. Preparation for large print / modified stave notation
8. Proofreading of Braille-output (1 time, or 2 times)
9. Correction of mistakes
10. Layout/formatting
11. Collate text and music from other Producers
12. Output as digital music braille file / formatted digital music braille file (which formats)
13. Physical production of embossed music braille scores
14. Archiving into a worldwide library catalogue
15. Reporting into Copyright reporting process
16. Training/mentoring

# Appendix 2: Sample Order Form

Please complete this form with as much detail as you can when you submit your transcription request, so that Producers know exactly what you need and can quote accordingly.

Please use the examples given to help you decide how to answer after each colon.

Once a Producer has been selected, they may need to contact the end-user to discuss their requirements so they are provided with the most usable score possible, so please make sure you include the users’ email address with their permission.

Please ensure that the source file/copy you supply is high quality so the transcription is accurate, and do as much file preparation as you can.

## Order details

* **Order number** (if applicable):
* **Order date**:

## End-user details

* **Name**: only needed once Order is confirmed with a selected Producer
* **Email**: only needed once Order is confirmed with a selected Producer
* **Deadline for recipient to receive the score**:
* **Summary of the request and intended use of the braille score**:

## Score

* **Score/book name**:
* **Composer/Editor**:
* **Publisher, Edition**:

## Source

* **Format of source provided** (e.g. PDF, print original, MusicXML, Sibelius file, capx):
* **Origin of source provided** (e.g. book; or name of online collection):
* **Quality of source provided** (e.g. excellent, acceptable, poor):

## Parts required

* **Score type required** (e.g. full score, separated parts; full score of vocal parts only; piano/organ accompaniment; part only; full score with/without lyrics, etc):
* **Complete transcription or extract** (e.g. which parts/pieces/pages):
* **Proofreading** (e.g. once, or twice):

## Country code and formatting

* **Country code required** (e.g. UTF-8, North American ASCII, Italian):
* **Braille formatting required** (e.g. Section by Section, Bar over Bar):
* **Text format** (e.g. lyrics contracted or uncontracted):

## Output

* **How the score is to be used** (e.g. to be embossed, for a braille line):
* **Cells per line**:
* **Lines per page**:
* **Output format required** (e.g. BRF or embossed):
* **If a music textbook** (e.g. volume of text plus volume of music; or volumes of integrated text and music):
* **Modified stave notation / large print:**
* **MIDI file of the music braille** (if it can be created from the source)

## Feedback /special requests

* **Any comments from the end-user**:

**For Producer’s use only:**

## Final invoice to charge Requesting Agency

e.g:

* **Purchase of score**:
* **Scanning**:
* **Engraving**:
* **Mark-up:**
* **Transcription**:
* **Embossing:**
* **Postage:**

## Delivery

* **Date sent to Requesting Agency/End-User**:

# Appendix 3: Sample User-Feedback Form

The Requesting Agency should seek User Feedback and complete and return this Feedback Form to the Producer.

## Order Details

* **Order number:**
* **Order date**:

## End-user

* **Name**:
* **Summary of the request and intended use of the braille score**:

## Score

* **Score/book name**:
* **Composer/Editor**:
* **Publisher, Edition**:

## Feedback

1. Was it easy to use for your intended purpose?
2. Did you find any errors?
3. Any improvements you’d like to suggest?