Accessible Music Interactive User Tool Proposal

From: Peter Jonas, self-employed developer of accessible software working on MuseScore

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Dear DAISY Music Project Committee,

I would like to submit the MuseScore side of a joint proposal with Sao Mai Braille to develop an accessible music interactive user tool. We want to combine MuseScore’s support for MusicXML import and ordinary stave notation with Soa Mai’s Braille expertise to produce a tool that enables Braille music translation features to a professional standard, while also being usable by individual musicians.

# Submission documents

In addition to this document, I have also submitted:

* Joint response to Daisy’s requirements for an interactive user tool.
* Video presentation and demonstration of MuseScore’s proposal.
  + Link: <https://www.youtube.com/watch?v=g5jdrNInxBk>

Sao Mai have submitted a separate proposal document and video.

# MuseScore’s aims and budget

I am applying for a quarterly budget of $1,500 USD over two years (8 quarters), for a total of $12,000 USD. This is split between two objectives:

1. Development of MuseScore’s MusicXML export and accessibility features
   * Cost: $1,200 USD per quarter (8 days of developer time per quarter)
2. Support for Sao Mai in connecting MuseScore to SMB
   * Cost: $300 USD per quarter (2 days, or 16 hours, of developer time per quarter)

## 1) Development of MuseScore ($1,200 USD per quarter)

This objective involves tackling bugs and feature requests mentioned in the Daisy Requirements for an Interactive User Tool document or identified by Hu Haipeng as relevant to such a tool. A list of development tasks and their estimated cost is given in an appendix at the end of this document. We would negotiate with Haipeng and Daisy to determine which tasks are to be completed in any given quarter. We are flexible in terms of completing extra tasks in one quarter at the expense of a later quarter.

## 2) Support for Sao Mai ($300 USD per quarter)

This objective is dedicated to helping Sao Mai to integrate MuseScore and SMB into a single product or workflow, which may involve building a MuseScore plugin or releasing a custom build. The money and time would be spent answering Sao Mai’s questions via email or conference call. If Sao Mai requires any additional time or support, such as development work on MuseScore’s plugin API to enable Braille-specific features, then that would be paid for out of Sao Mai’s budget.

# Appendix: MuseScore Development Tasks

Bugs and feature requests mentioned in the Daisy Requirements for an Interactive User Tool document or identified by Hu Haipeng as relevant to such a tool. To be tacked as part of objective 1: Development of MuseScore. The cost and time estimate to complete a single task is given for each difficulty level.

### Trivial tasks

**Cost:** $150 USD

**Time:** 1 day to complete

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| **Issue** | **Category** | **Title** |
| [#306212](https://musescore.org/en/node/306212) | MusicXML | <extend /> miss type attribute |
| [#299681](https://musescore.org/en/node/299681) | MusicXML | Add print-object to part-name when required |
| [#302427](https://musescore.org/en/node/302427) | MusicXML | Breath-mark to rest note |
| [#298147](https://musescore.org/en/node/298147) | MusicXML | Defined measure number not exported |
| [#288907](https://musescore.org/en/node/288907) | MusicXML | Export does not included altered ontime values |
| [#307530](https://musescore.org/en/node/307530) | MusicXML | Hidden staff info not exported |
| [#304371](https://musescore.org/en/node/304371) | MusicXML | Incorrect offset location in harmony |
| [#264595](https://musescore.org/en/node/264595) | MusicXML | Lyric lines with placement "above" is not correctly created |
| [#305958](https://musescore.org/en/node/305958) | MusicXML | Measure Number Reset Fails When Meeting Text Frames |
| [#304430](https://musescore.org/en/node/304430) | MusicXML | Missing staff in harmony |
| [#298438](https://musescore.org/en/node/298438) | MusicXML | No-beam information lost when importing from MusicXML |
| [#307271](https://musescore.org/en/node/307271) | MusicXML | Wrong tuplet calculation in two-note tremolo |
| [#307442](https://musescore.org/en/node/307442) | Speech | Tuplet more than 9 seems not to be announced correctly |

### Small tasks

**Cost:** $450 USD

**Time:** 3 days to complete

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| **Issue** | **Category** | **Title** |
| [#306221](https://musescore.org/en/node/306221) | Keyboard | Home / End / Page Up / Page Down don't change cursor position |
| [#303350](https://musescore.org/en/node/303350) | Keyboard | Implement cross-staff or cross-voice slur input via keyboard |
| [#299941](https://musescore.org/en/node/299941) | Keyboard | Loss of keyboard accessibility for Inspector on elements with handles |
| [#306138](https://musescore.org/en/node/306138) | MusicXML | Add text attribute to measure containing displayed measure number |
| [#281007](https://musescore.org/en/node/281007) | MusicXML | Allow exporting scores without invisible items |
| [#302826](https://musescore.org/en/node/302826) | MusicXML | Composite articulations not exported |
| [#269926](https://musescore.org/en/node/269926) | MusicXML | Double fermata exporting note with both fermata and grace note |
| [#298623](https://musescore.org/en/node/298623) | MusicXML | Export unsupported symbols as "symbol" (UT 2.7) |
| [#298488](https://musescore.org/en/node/298488) | MusicXML | Harp Pedal Diagram should be exported |
| [#305283](https://musescore.org/en/node/305283) | MusicXML | Improve MusicXML export of section breaks |
| [#302479](https://musescore.org/en/node/302479) | MusicXML | Pedal line with text not exported |
| [#21649](https://musescore.org/en/node/21649) | MusicXML | Repeat measure sign not exported or imported |
| [#303450](https://musescore.org/en/node/303450) | MusicXML | Text in voice 2 not correctly placed |

### Medium tasks

**Cost:** $1,200 USD

**Time:** 8 days to complete

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| **Issue** | **Category** | **Title** |
| [#303367](https://musescore.org/en/node/303367) | Keyboard | Special characters windows not accessible at all |
| UT 11.7 | Notation | Ability to select the language(s) for lyrics |
| UT 11.11 | Notation | Options for placement of asterisked explanations |
| UT 11.14 | Utility | Provide/link to a score overview summary tool |

### Tasks of unknown difficulty

These tasks require more investigation to determine complexity and provide cost and time estimates.

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| --- | --- | --- |
| **Issue** | **Category** | **Title** |
| [#299662](https://musescore.org/en/node/299662) | MusicXML | Horizontal frame not exported |
| [#270709](https://musescore.org/en/node/270709) | MusicXML | Issues with coda and d.s. al coda |
| [#58671](https://musescore.org/en/node/58671) | MusicXML | The simple arrows in the Arpeggios palette are not exported |
| UT 2.6 | Notation | It is future-proof by allowing for the addition of agreed DAISY-defined new signs for special notation |

### Additional tasks

We are open to tackling other tasks if any emerge that are deemed by Daisy or Haipeng to be more important than those listed above. MuseScore keeps track of relevant issues in the following locations:

* MusicXML issues: [#270643](https://musescore.org/en/node/270643)
* Accessibility issues: [#277496](https://musescore.org/en/node/277496)
* Support for W3C MNX: [#296817](https://musescore.org/en/node/296817)

Please note that a free MuseScore account is required to view the above pages, otherwise the relevant part of the page will appear empty (i.e. the list of issues under “What links here” is not visible).