Equipment Suggestions Document

At the outset, we suggest that this document centres upon the expertise from within the UKAAF/MSA group. However, it is not intended to ignore people with other disabilities who have different requirements, as these could also be included.

By way of example, a series of questions and answers follow in an attempt to provide practical assistance. The range of equipment listed is not an endorsement of any particular product, company or organisation, it suggests solutions in an ever-changing environment.

1. How can blind or sighted people create a score in braille?

Direct input using a braille writing machine is one route. Another option is to use braille editing software such as the Duxbury Braille Translator, which can perform this task, www.duxburysystems.com.

2. Can I translate braille music into stave notation?

Braille Music Editor has this capability and is accessible to blind people, information can be found at http://www.veia.it/en/bme2_product.

3. How can I translate stave notation into braille music?

A program such as Goodfeel from Dancing Dots can provide a solution, accessible to blind people (www.dancingdots.com). Another method is to export a file from a music notation package in MusicXML for translation into braille. Depending upon circumstances, assistance of a sighted person may be required.

IBOS MusicXML Reader (https://www.ibos.dk/english/the-ibos-musicxml-reader.html) is a new application, at present for Windows only, that converts MusicXML files into a plain text representation that can be read on a braille display.

4. How can a blind person create a score using stave notation?

A package such as MuseScore (https://musescore.org/) in conjunction with NVDA (https://www.nvaccess.org/) is a route to accomplish this task. Both MuseScore and NVDA are free and open source packages.

Another option is LilyPond (https://www.lilypond.org), which uses a text-based input format that can be written in any text editor and then compiled into music notation in PDF format. Because LilyPond is not an interactive application it is accessible in the same way that any application run from the command line is accessible. However, using LilyPond requires the study and assimilation of a special input format for musical data.

5. What sequencers, audio editors and Digital Audio Workstations are accessible?

Programs such as Quick Windows Sequencer (QWS) should be considered. More information can be read in Appendix A.

CakeTalking 8.8 (http://www.dancingdots.com/prodesc/CakeTalkingForSONAR.htm) for SONAR 8.5 is another option. It seems this package will work with Windows but no later than Windows 7.

Sound Forge (http://www.magix.com/us/sound-forge/) also provides an option. For the Windows version, JAWS scripts are available to purchase from heartofiowa.net/~snowman/scripts.html. Sound Forge Pro Mac (http://www.magix.com/us/sound-forge-pro-mac/) works with VoiceOver. You may wish to label the many buttons and elements. Preferences are set out using tabs, and tables within those tabs.

Logic Pro (https://www.apple.com/logic-pro/) with VoiceOver for Apple computers should be considered.

Avid Pro Tools (http://www.avid.com/pro-tools) for Mac works well with VoiceOver; the Windows offering is, perhaps, not as successful. In addition to Pro Tools's own support for VoiceOver, Flo Tools (http://flotools.org/) is a set of scripts that relies on the third-party commercial application Keyboard Maestro (https://www.keyboardmaestro.com/main/) to streamline existing and enable otherwise inaccessible workflows.

OSARA: Open Source Accessibility (https://github.com/nvaccess/osara.git) for the Reaper Application (www.reaper.fm) in conjunction with NVAccess.

Native Instruments' Komplete Kontrol is another option; information is given in a document at Appendix B, attached.

For partially sighted users the following applications may prove beneficial:

- LimeLighter for Windows (http://www.dancingdots.com/limelighter/limelightermain.htm)
- Music Zoom for iPad (http://musiczoomapp.com/Music_Zoom/Home.html)
- ForScore for iPad (https://forscore.co/)
- Power Music Accessible Format (https://powermusicsoftware.com/Products/Power-Music-AF)

There has been a move from work stations to mobile devices, mainly iPads, but other tablets are appearing more and more.

There is also a move to use in-built magnification, alteration of screen colours and layout, rather than overlay packages such as SuperNova and Zoomtext.

6. Can a blind person read braille music using a braille display?

As music in braille is essentially a text file, a braille display can be used for this purpose. An important limitation to note is that current technology allows only a single line to be read at a time. This could change as and when a production model of Canute is produced. However, people can use some of these more portable devices for performance of a vocal part, for instance.

7. Within an education setting, how can blind and partially sighted pupils take full advantage of curriculum requirements?

A helpful starting-point is to ascertain what outcome is required. Other factors are an individual's IT skills and what support may be available. Another component is to understand what, if any, equipment/programs are being used. Sometimes the answer might not be a technological one.

8. How can I create large print scores (modified stave notation)?

Using Modified Stave Notation (MSN) offers a wide variety of possibilities. Leisure, study and performance requirements may need to be considered.

9. How can accessibility of an existing application be improved?

Applications that are not fully accessible or which require the mouse to be used for specific actions can, with sighted assistance, be made partially accessible through the use of tools that can move the mouse pointer and automatically click either in a fixed location on the screen or by identifying a user interface element by its appearance.

JAWS users on Windows may wish to consider HotSpotClicker (http://www.hotspotclicker.org/), which allows users to define areas on the screen where a mouse click should be performed, and to specify a keyboard shortcut to trigger that click.

Another Windows application that can automate mouse clicks is AutoHotKey (https://www.autohotkey.com/).

On Mac, Keyboard Maestro (https://www.keyboardmaestro.com/main/) is a powerful tool for automating applications, and can even trigger scripts by playing notes or chords on a MIDI keyboard.

10. How can I use a metronome?

A number of metronome apps for iOS support Voice Over and are therefore accessible to visually impaired users:

- Metronome+ for iPad (https://itunes.apple.com/us/app/metronome/id434136233?mt=8)

- Tempo Perfect for iPhone/iPad (https://itunes.apple.com/us/app/tempoperfect/id377320019?mt=8)
- Time Trainer for iPhone/iPad (https://itunes.apple.com/gb/app/time-trainer-metronome/id502491350)
- Taptronome for iPhone/Apple Watch (http://www.taptronome.com/)

Appendix A

Category: MIDI sequencer

Quick Windows Sequencer by James Bowden (QWS) Version 1.56.

QWS lets you record, play and edit music using MIDI. QWS hopefully has most of the features you would want in a general sequencer: multiple tracks, record, play, step record, cut & paste, note & controller editors and a bunch of tools such as transpose, change velocity, time glide, quantise, ... to name just a few.

Available from: http://qws.andrelouis.com

Price: Free for personal use

Delivery mechanism: Download from Web site.

Supported Windows OS versions: Windows 98 upwards.

Works with screen readers

As a Sequencer, there is no staff notation, however, there is a piano roll in the "Note Editor".

File format support: MIDI file Full QWS; MIDI file Type 1; MIDI file Type 0; System exclusive file

A MIDI keyboard is recommended, however, a computer keyboard will work.

QWS can interact with VST instruments and SoundFonts via free third party software.

QWS will use whatever you have as your Windows theme colours.

Appendix B, attached.

DS/RF 10 April 2018.