

HUNoEd: some problems

Fonts

I struggled a lot with using fonts that contained special music characters (“glyphs”) like the violin key or the segno. The music font I use is an unmodified font Euterpe.otf (Euterpe.ttf may also be used).

The essential reason for the font problems: Windows uses 2-byte access codes for the fonts, i.e. a maximum of 0xffff glyphs can thus be reached. Unfortunately many music-related **glyphs are far beyond 0xffff** so that Windows cannot reach these glyphs.

At the moment the solution is: whenever the code point for a glyph is beyond 0xffff I don't use the font but a bitmap (a scanned image) that is preloaded depending on the operating system. Bitmaps are however less flexible than font glyphs especially when they must be scaled.

Under Linux there are no font problems as Linux uses 4 bytes to access the glyphs.

MIDI

The player is based on MIDI. The basic problem is:

- Windows has a builtin **software synthesizer**
- Linux has no builtin software synthesizer – but a lot of packages playing this role (Timidity, FluidSynth, Qsynth, Wilmidi). In addition it has several sound related basic architectures (OSS, Alsa, Pulseaudio, JACK)

Therefore: no major MIDI problems with Windows. Windows has no visible MIDI Server running in the background.

For Linux: the best solution seems to me to use Qsynth as backend (MIDI server). The alternative *Timidity* produces problems probably related to JACK and Pulseaudio. Even some basic utilities like *aplaymidi* have problems when Timidity is used as backend(=MIDI Server).

The sound quality under Linux depends heavily on the **soundfonts** (files with extensions like .sf2 or .sf3) used. Soundfonts must often be installed separately.

HUNoEd uses **ALSA** as the basic sound architecture. JACK and Pulseaudio are not needed.

The export of scores towards MIDI files works generally well.

MusicXML

The import format used in HUNoEd is uncompressed MusicXML. Although a MusicXML schema and a DTD exist many questions remain open. The most obvious problem is the lack of definition for concepts like “score title” etc. Other notation editors like MuseScore and Capella also seem to have problems with the concepts. Be prepared that the import of MusicXML scores produced by other notation editors needs handish fine tuning.

Printing

At the moment I use the basic printing mechanisms of wxWidgets which produces fair result. The esthetic quality must and will be improved. For better print quality use the (experimental) export to Lilypond

LilyPond

The export of score towards LilyPond is experimental and works most of the time. The Lilypond documentation is huge – but the quality is often very poor. I need a syntax diagram (a grammar) of LilyPond and found none.

Missing features

HUNoEd has no features for this:

- **multiple voices** in one part. You can overcome this by creating separate parts for the voices.
- Only a very basic set of **music glyphs** is implemented
- **MIDI import** is not supported. I do not plan to implement this. MIDI lacks many essential features for a satisfying import (see the bad results in other notation editors)