

Peripheries of Music Notation Software

Initiatives for printed and digital notation

- Extending notational palettes
- Improving digital notation with fonts: SMuFL, Unicode
- Improving digital notation with fonts: Leland (MuseScore)
- Improving existing approaches to notation: Guido MN at GRAME
- Improving optical recognition with AI: Alicante group

Expanding, extending conventions for MN

- Organizations promoting new notations
 - The Music Notation Project: <http://musicnotation.org/>
 - Communal discussions; special interests; tools
 - Finale
 - Sibelius
 - MuseScore
 - Lilypond
 - VexFlow
 - Belle, Bonne, Sage (github)

Fonts *ad infinitum* (SMuFL)

- Unicode: 128 slots for music characters (c1996)
- Unicode aim: **glyph descriptions**,
not a specific instance (e.g. eighth notes)
- Not related to **semantic meaning**



SMuFL: A short history

- Original *Sibelius* team released SMuFL (c2014); then Ukraine, then US/UK
- Ex-*Sibelius* team hired by Steinberg (DE): notation product = Dorico
- Team leader: Daniel Spreadbury
- SMuFL font a list of 2,000+ symbols available to anyone
- Uses private (virtual) space allocation in Unicode.

SMuFL connections

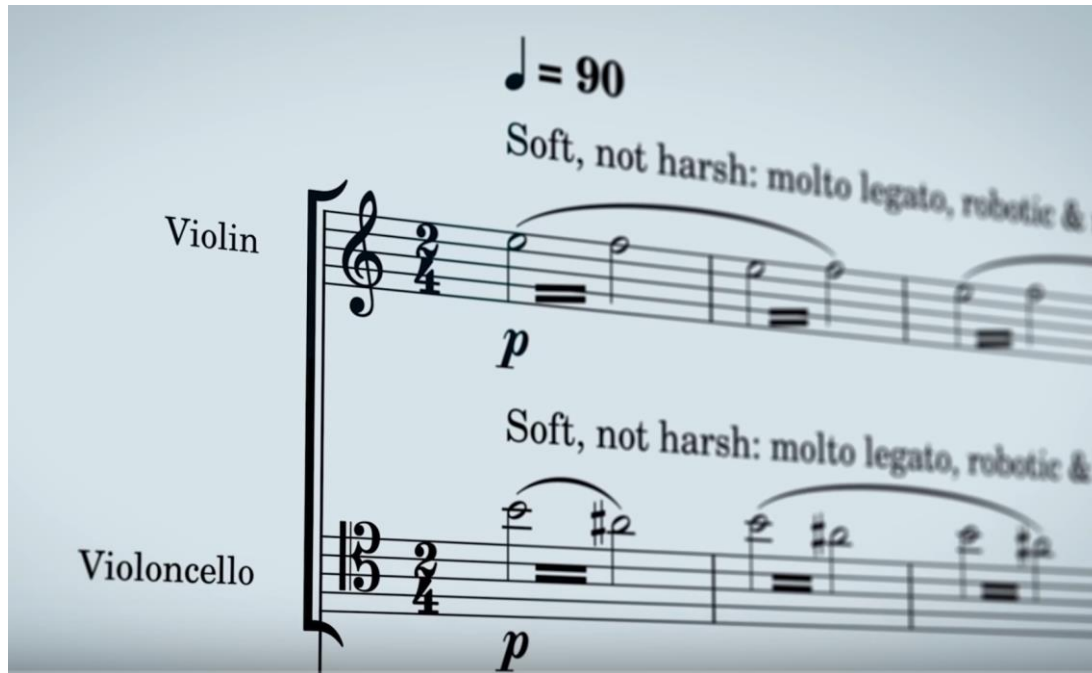
- Works with proprietary font makers using SMuFL
- Compatible with
 - Finale
 - Sibelius
 - Dorico
 - Verovio
 - MEI



Figure 3. Example of the November 2.0 font.

The “Leland” font for *MuseScore*

- <https://www.youtube.com/watch?v=XGo4PJd1Ing> (20-minute description)



Font design close-up

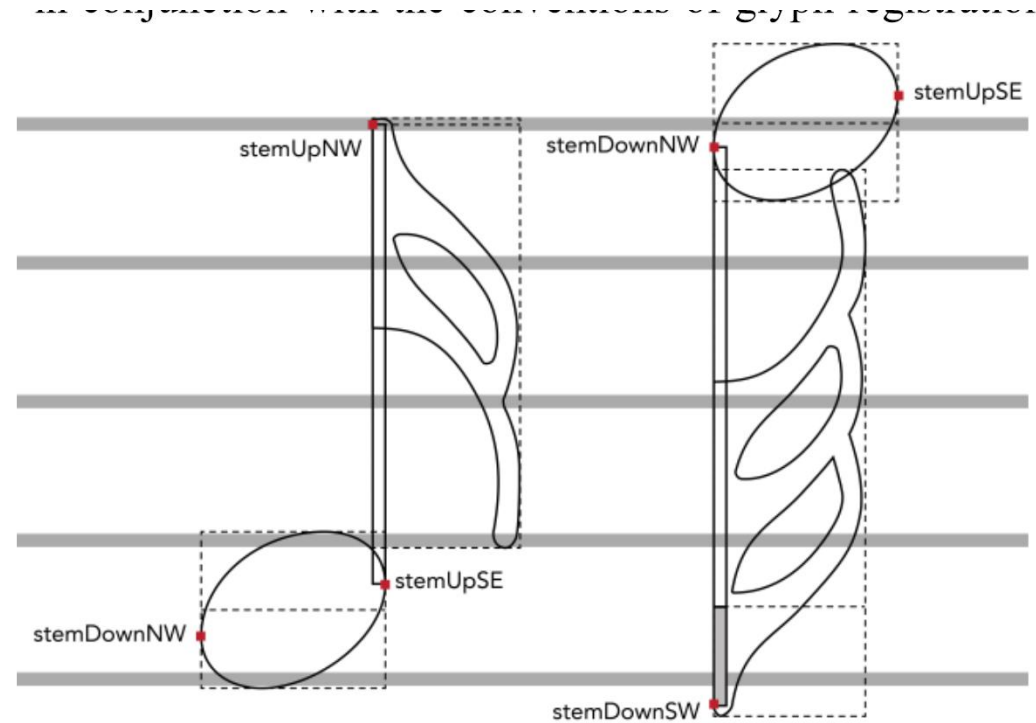


Figure 1 : Diagram illustrating how points defined in font-specific metadata can be used by scoring software.

Guido's new site

Guido Music Notation

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About

Welcome to Guido

Guido Music Notation

Welcome to Guido

Guido Music Notation

The GUIDO Music Notation Format (GMN) is a general purpose format for representing musical notation in a platform independent, plain-text and human-readable way. It is a powerful formalism: its design concentrates on general musical concepts (pitch, rhythm, dynamics, articulation, graphical features). A key feature of the GUIDO design is adequacy, which means that musical notation should be represented in a simple way and only complex notions require complex notation.

The Guido Project

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The Guido Project

Targets

History

Dominique Fober et al.

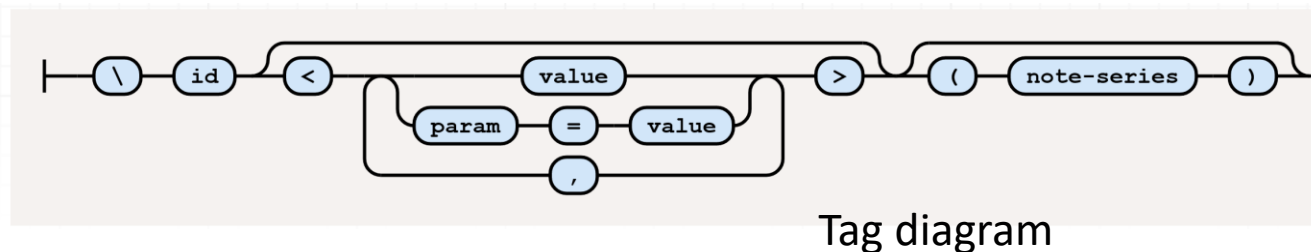
The Guido Project



The Guido Project is an open source project hosted on [github](#) that encompasses a music notation score rendering engine and various music score utilities. The **Guido Music Notation Format** is a purpose formal language for representing score-level music in a platform-independent plain human readable way. The format comes with various software components for music score manipulation. The main of these components is the Guido engine, a library that can be embedded in different platforms and using different programming languages.

Improving durability, robustness

- Guido MN—Game (Lyon)
- <https://guido.game.fr/>
- Re-write of Guido original documentation:
<https://guidodoc.game.fr/>



Guido example: Mozart Clarinet Quintet

(central example on *Beyond Midi*; first example in *Guido doc*.)

```
{
% first voice, clarinet in A
\pageFormat<w=25cm,h=38cm,tm=4cm,lm=2cm,bm=2cm,rm=2cm>
\title<"Clarinet Quintet"> \composer<"Mozart, K. 581",
\systemFormat<dx=2cm> \barFormat<"system">

\instr<"Clarinet in A",transp="A",autopos="on">
\clef<"g"> \key<"A"> \meter<"3/4">
\i<"p", dy=-1> \sl( a1/8 c#2 |
% measure 1, voice 1
e c# a/4 ) \sl( e/8 c#
% measure 2, voice 1
h1 d2 f#/4) \sl<"up">( d/8 h1
% measure 3, voice 1
\bm( a g# c#2 h1 e2 d ) )
% measure 4, voice 1
\sl( h#1/4 c#2 ) \sl( a1/8 c#2 |
```

Clarinet Quintet

Mozart, K. 581

User Guide: Tags and nested tags

<https://guidodoc.grame.fr/guide/tags/>

Interchange codes in the marketplace: MusicXML -- Hal Leonard

The Lark in the Morning

arr Joachim Beyer

Irish Folk Hal Leonard (Publisher)

$\text{♩} = 100$
D

Flöte

Gitarre

Violoncello

mp

mp

The image displays a musical score for the piece 'The Lark in the Morning'. It is arranged by Joachim Beyer and published by Hal Leonard as an Irish Folk song. The score is written for three instruments: Flöte (Flute), Gitarre (Guitar), and Violoncello (Cello). The key signature is D major (two sharps) and the time signature is 6/8. The tempo is marked as quarter note = 100. The Flöte part begins with a D note and includes melodic lines with slurs and ties, with specific notes labeled G, D, and A. The Gitarre part starts with a low 8 and plays a rhythmic accompaniment marked 'mp'. The Violoncello part also starts with a low 8 and plays a bass line marked 'mp'.

MuseScore's sharing site

- Small monthly fee
- User-built repertories (dubious copyright credentials)

Autumn Leaves

The image displays a musical score for the song "Autumn Leaves". It features two staves: a Tenor Lead staff (top) and a Baritone/Bass staff (bottom). The key signature is two sharps (F# and C#), and the time signature is 4/4. The lyrics are: "When au-tumn leaves be-gin to fall when au-tumn leaves be-gin to fall". The Tenor Lead staff has a treble clef, and the Baritone/Bass staff has a bass clef. The music is written in a simple, accessible style, likely intended for amateur musicians.