

Providing Music Notation Services over Internet

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State of the Art

- Notation editors (GUI)
- Score sharing software
- JIT compilation services

Problem

- Lack of low-latency alternative to create musical notation.
- Lack of an API that allows for web application building.

Solution

- Provide a service that quickly compiles music notation representations into several encoded forms (PNG, SVG, DSL).
- Provide a web API via a server-client architecture.

GUIDO Engine

- Compiles Guido Music Notation (GMN) markup language.
- Interprets this into an abstract representation.
- Translates abstract representation into a graphical representation.
- Draws representation onto a device.

REST architectural style

- client-server model
- stateless (almost...)
- client-side caching
- uniform interface (GET, POST, etc.)
- layering of multiple servers
- code-on-demand

REST design practices

- Transferring metadata along with data
- Human readable, hierarchical URIs
- URI points to idea, not necessarily to permanent object

GUIDO HTTPD server

- Uses GNU libmicrohttpd to handle POST, GET, and DELETE requests (uniform interface)
- *almost* stateless - use of SHA1 key as resource identifiers prevent too-long URIs
- example

Guido Web Api

- Function as URI segment
- Arguments to functions and options as key-value pairs
- Return values as standard MIME images or JSON

guidoeditor.grame.fr

- Example uses server-side layout calculations and client side drawing to avoid lengthy transfers.
- Also possible to do server-side drawing.
- Potential for creating fast embedded scores as well as simple editing applications.

Other GUIDO projects

- Mozilla license
- iOS and Android applications
- inSCORE
- Looks to be the fastest and most complete provider of music representations and data.

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GUIDO <3 Linux!

- GUIDO is currently not included in major Linux distributions.
- GUIDO has the potential to be the open-source alternative for fast music representation and could be useful for many of the applications used today.

sourceforge.net/p/guidolib
guidoeditor.grame.fr

GRAME (Lyon)

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