OrchestralLily

A Package for Professional Music Publishing with LilyPond and $\protect\operatorname{ATEX}$

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Vienna University of Technology, http://www.fam.tuwien.ac.at/ GNU LilyPond, http://www.lilypond.org/ Edition Kainhofer, Music publishing, http://www.edition-kainhofer.com/

Linux Audio Conference 2010, Utrecht, Netherlands May 3, 2010

Overview

- Requirements for Professional Music Publishing
 Contents of Editions
- 2 LilyPond for Music Typesetting
- Structure of a Score
- 4 OrchestralLily
- Text parts of Editions: Preface & Cover
- 6 Templates
- Availability of OrchestralLily

Full score, including:

- Orchestral parts: One part per instrument, containing cue notes to other
- Piano reduction

- Full score, including:
 - Nice cover page, inside title page



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- Full score, including:
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 - Table of contents



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Contents of Editions

- Nice cover page, inside title page
- Table of contents
- Preface: Introduction, Biography, Lyrics

Vorwort	Preface
Die Serben-Quadrille ist als Open ist sin briten Work sin Wiener Walenshieler Johann Steam Schn. komponier in Robert von Finer Obermen'd für den Serminist im	The Archive Qualities Opini is an only work the Michael Stage Makes Room & commissional when Chemical for a Mark hall 1006 in Vision.
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komt leit des Vaten in der Wieser blaufereit kannen in kann Steinen Sides gestrangen, sich eher den Randgrap- pen der geleckenen Wieser Breifkerung erstenmäten. Zu	"La Panie" (the hea), ii. La Trinie" (nomed after dus matter Trinies), L. "La Pantonelle" (the shepherd pl and S. Finale. The original French here construed of an
dinar Job weller even der ebensalige Serbestliner Militä Glemmerk (1766-1660) im End im Weim, medselsen im John 1660 selbs Selbselle Glemmerk mehr beisen Andreaus im Genemen von Abbensaler Konstanterier als particular	I-figure, missing the Trinis. The history of this quadrille curries some interned supers as well: The closely with his faciler John Neuma N. of Lance and party commerce as well or
First alignetst works and such Wars printer no- Obstaced vocables of trackindous dates while out- questionsh Michealecking and de Herachalt in Serbin.	shift not worth his son to become a municipe, and the fluores of the facilies in Visson had formal the son to to his attention away from the majoratom of the Visso
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Die vorlegende Bearbeitung der Serben-Quadelle Eie Smitderie untermit ebenfelle anläufelt einen Sieren- halte im Warse Für den Wiener Softwahul im Julie 1996.	by an a plane official published by Plane Medicals is confessed sension in and preserved. The remove arrangement of the Sect. One fields for any
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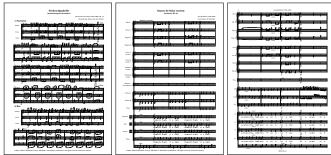
- Orchestral parts: One part per instrument, containing cue notes to other
- Piano reduction



Full score, including:

Contents of Editions

- Nice cover page, inside title page
- Table of contents
- Preface: Introduction, Biography, Lyrics, etc.
- The full score itself (including editorial markings), possibly consisting of multiple movements; Some instruments share one staff



- Critical report
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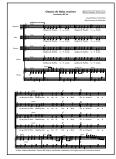


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Different Requirements for Different Score Types

Different Page and Staff Sizes

- Full Score: very large (30x20cm) with small staves (5mm)
- Miniature Score: very small (A5 or smaller) with even smaller staves
- Orchestral Parts: large (A4 or larger) with large staves (7-8 mm)
- Choral Score: A4 with medium staff size
- Vocal Score: Smaller than A4 (27x19cm) with medium staff size

Different line breaking

Contents of Editions

- <u>Full Score</u>: As much as possible on a single page, position of turns nor very important (except: Organ / piano playing from full score)
- <u>Vocal Score</u>: Turns before/after difficult onsets not advisable
- Orchestral Parts: Turns only during breaks (for strings also at other spots)

Different Content

- Full Score: Editorial markings (brackets, footnotes, etc.)
- Orchestral Parts: Cue notes to other instruments

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Overview

- Requirements for Professional Music Publishing
- 2 LilyPond for Music Typesetting
 - Introduction to the LilyPond Syntax
 - Full Scores: Same Structure for all Parts / Movements
 - LilyPond is written in C++ and Guile / Scheme; extensible via Scheme
 - Solution: OrchestralLily (simple example)
- Structure of a Score
- OrchestralLily
- 5 Text parts of Editions: Preface & Cove
- Templates
- Availability of OrchestralLily

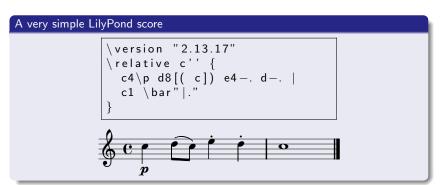


A Short Introduction to LilyPond

- Text-based input
- processed by LilyPond binary to PDF
- WYSIWYM (What you see is what you mean): You enter the musical content, not the exact layout
- LilyPond is based on engraving conventions for music developed before computers were used to generate ugly scores.

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- Note names¹: c d e f g a b, -is for sharp, -es for flat
- Relative mode: intervals larger than fifth need ' or ,, otherwise no modified
- Durations: 1, 2, 4, 8 for whole, half, quarter, eight; . for dot, e.g. 4.;
 repeated durations not required
- Ties: ~ after duration
- I ime signature, key, clef
- Dynamics: \ppp, ..., \fff, \< and \> ... \! for hairpins
- Slurs: (and) after the notes
- Beaming: Automatically; manually with [and] after the notes
- Articulations: e.g. -., ->, \marcato, etc. after the note
- Bar lines: | for single barline (barcheck, not required), \bar "|." for end \repeat { music } for repeat structure.

¹Dutch by default; English note names available by \include "english.ly", German by \include "deutsch.ly"



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\kev d \major \time 4/4 \clef "bass" d4\p\< e8[(d]) fis4\!-. cis'-. | d1~\f | d1 \bar ."



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```
\relative c {
  \key d \major \time 4/4 \clef "bass"
  d4\p\< e8[( d]) fis4\!-. cis'-. |
  d1^\f | d1 \bar ."
```



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Creating Staves and Staff Groups

```
\version "2.13.17"
                                       \score {
                                         \new ChoirStaff <<
SMusic = \relative c'' 
                                            \new Staff {
  c4\p d8[( c]) e4-. d-. |
                                              \new Voice = "Soprano" {
  c1 \bar "|."
                                                \dynamicUp \SMusic
SLyrics = \Iyricmode {
                                            \new Lyrics = "SLyrics"
  Oh, be __ hap --- py now!
                                               \lyricsto "Soprano" \SLyrics
AMusic = \relative c'' 
                                            \new Staff {
                                              \new Voice = "Alto" {
  g4 f4 e4 f
  e1 \bar "|."
                                                \dynamicUp \AMusic
ALyrics = \lyricmode {
                                            new Lyrics = "ALyrics"
  Oh, be hap - py now!
                                               \lyricsto "Alto" \ALyrics
                                         >>
                                 be_ hap - py
                                               now!
                            Oh.
                                be
                                     hap - py
                                              now!
```

• Music can be assigned to variables!

Full Scores: Same Structure for all Parts / Movements

- Score structure is built using
 \new (StaffGroup|ChoirStaff|Staff|Lyrics|Voice) ...
- A single staff and voice will be implicitly created if some music is given (useful for simple scores consisting of only one staff)
- Delimiter are braces { }, their contents appear sequentially
- Parallel contents (e.g. parallel staves) are in << >>

Problems with large works (many instruments and movements

Each movement has the same structure (some instruments might be missing), only the variable names will be different.

E.g. Opus with 23 instruments, 12 movements: 276 individual staves (excluding groups), same number of staves in instrumental parts, etc.

Each full score has exactly the same structure

Image: You want to change the instrument order (because your publisher wants that)...

Why not automate it?!?!?



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Why not automate it?!?!?



LilyPond uses Guile (Scheme dialect) as scripting language

```
\version "2.13.18"
%LSR contributed by Jav Anderson.
                                              #(define (octavize music t)
                                                (if (eq? (ly:music-property music 'name)
#(define (octave-up m t)
                                                       'EventChord)
 (let * ((octave (1- t))
                                                      (ly:music-set-property! music
      (note (ly:music-deep-copy m))
                                                             'elements (oct-chord
      (orig-pitch (ly:music-property m
                                                            (ly:music-property music
              pitch))
                                                             'elements) t)))
      (pitch (ly:make-pitch
                                                music)
        (ly:pitch-notename orig-pitch)
                                               makeOctaves = #(define-music-function
        (ly:pitch-alteration orig-pitch))))
                                                     (parser location arg mus) (integer?
  (set! (ly:music-property note 'pitch)
                                                     lv:music?)
         pitch)
                                                (music-map (lambda (x) (octavize x arg))
  note))
                                                      mus))
#(define (oct-chord elements t)
 (cond ((null? elements) elements)
                                               \relative c' {
     ((eq? (ly:music-property (car
                                                 \time 3/8
           elements) 'name) 'NoteEvent)
                                                 \key gis \minor
                                                 \makeOctaves #1 { dis8( e dis') " dis8.(
       (cons (car elements)
             (cons (octave-up (car
                                                       cis16 b8}
                    elements) t)
                                                 \makeOctaves #-1 { ais ' gis dis ) cis ( dis
                   (oct-chord (cdr
                                                       <dis gis'>) }
                          elements) t))))
```

OrchestralLily: An easy example

The original example with plain LilyPond

```
\version "2.13.17"
SMusic = \relative c'' 
  c4\p d8[(c]) e4-.d-.
  c1 \bar "|."
SLyrics = \Iyricmode {
  Oh, be __ hap — py now!
AMusic = \relative c'' {
  g4 f4 e4 f |
  e1 \bar "|."
ALyrics = | Iyricmode | 
  Oh, be hap — py now!
```

```
\score {
  \new ChoirStaff <<
    \new Staff {
      \new Voice = "Soprano" {
        \dynamicUp \SMusic
    \new Lyrics = "SLyrics"
        \lyricsto "Soprano" \SLyrics
   \new Staff {
      \new Voice = "Alto" {
        \dynamicUp \AMusic
    new Lyrics = "ALyrics"
        \lyricsto "Alto" \ALyrics
 >>
```



chestrailliy: An easy example

```
The original example with OrchestralLily: much less code!
```

```
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SMusic = \relative c'' {
    c4\p d8[( c]) e4-. d-. |
    c1 \bar "|."
}

SLyrics = \lyricmode {
    Oh, be __ hap — py now!
}

AMusic = \relative c'' {
    g4 f4 e4 f |
    e1 \bar "|."
}

ALyrics = \lyricmode {
    Oh, be hap — py now!
}
```

\include "orchestrallily/orchestrallily.ily"
\createScore #"" #'("Ch")



Creating score for Movement for given instrument(s) or group(s) (see below)

\createScore #"Movement" #'("Instruments" "or" "Groups")



Creating score for Movement for given instrument(s) or group(s) (see below)

```
\createScore #"Movement" #'("Instruments" "or" "Groups")
```

OrchestralLily takes all score information from appropriately named variables:

Form of the variables used by OrchestralLily

```
[{\tt Movement}] \ [{\tt Instrument}] \ Identifier
```

The (optional) Movement and Instrument (or Group) can be chosen arbitrarily, but need to coincide with the ones given in the \createScore command. Identifier can be any of the list on the next slide.

Examples

CadenzaSMusic ... Music for Soprano, piece "Cadenza"

CadenzaSLyrics ... Music for Soprano, piece "Cadenza"

CadenzaIIKey ... Key for "Cadenzall" for all instruments and groups

VaClef ... Clef for Viola for all piece

More specific settings override (e.g. CadenzaSKey overrides CadenzaKey



Creating score for Movement for given instrument(s) or group(s) (see below)

```
\createScore #"Movement" #'("Instruments" "or" "Groups")
```

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Form of the variables used by OrchestralLily

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The (optional) Movement and Instrument (or Group) can be chosen arbitrarily, but need to coincide with the ones given in the \createScore command. *Identifier* can be any of the list on the next slide.

Examples:

CadenzaSMusic ... Music for Soprano, piece "Cadenza" CadenzaSLyrics ... Music for Soprano, piece "Cadenza"

CadenzaIIKey ... Key for "Cadenzall" for all instruments and groups

VaClef ... Clef for Viola for all pieces



Creating score for Movement for given instrument(s) or group(s) (see below)

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\createScore #"Movement" #'("Instruments" "or" "Groups")
```

OrchestralLily takes all score information from appropriately named variables:

Form of the variables used by OrchestralLily

```
[Movement] [Instrument] Identifier
```

The (optional) Movement and Instrument (or Group) can be chosen arbitrarily, but need to coincide with the ones given in the \createScore command. *Identifier* can be any of the list on the next slide.

Examples:

CadenzaSMusic ... Music for Soprano, piece "Cadenza" CadenzaSLyrics ... Music for Soprano, piece "Cadenza"

CadenzaIIKey ... Key for "Cadenzall" for all instruments and groups

VaClef ... Clef for Viola for all pieces

More specific settings override (e.g. CadenzaSKey overrides CadenzaKey)



All variable name modifies used by OrchestralLily

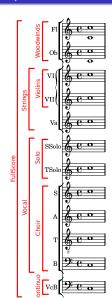
Music	Containing the music expression of the voice
Lyrics(I II)	Lyrics for vocal voices (multiple stanzas!)
Clef	Clef for (movement+)instrument
Key	Key for movement(+instrument)
TimeSignature	Time signature for movement
Settings	Special settings for movement+instrument
ExtraSettings	More settings for movement+instrument
PieceName	Displayed movement title
PieceNameTacet	Displayed movement title for quiet instruments
Transpose(From To)	Transposition pitches
Voice	Explicit voice (override automatic generation)
Staff	Explicit staff (override automatic generation)
(Staff Lyrics Voice)Modifications Context modifications	
InstrumentName	Displayed instrument name (begin of score)
ShortInstrumentName	Short name (subsequent lines)
MidiInstrument	Instrument for MIDI generation

Overview

- Requirements for Professional Music Publishing
- 2 LilyPond for Music Typesetting
- Structure of a ScoreInstrumental Staff Gropups (Pre-Defined Order)
- OrchestralLily
- 5 Text parts of Editions: Preface & Cover
- 6 Templates
- Availability of OrchestralLily

Score Structure (Inherent Hierarchy of Orchestral Scores)

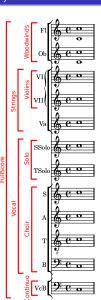
- Each instrument is named using its standard abbreviation (VI, VII, Va, Vc, FagI, FagII, Obl
- Each group of identical instruments (e.g. Violins,
- abbreviation (V, FI, Ob, etc.); sharing same staff or
- curly braces for grouping
- Groups of instruments: Wd (Woodwinds), Br
 - (Brass), Str (Strings, except cellos/basses), Solo
 - + Choir); square brackets for grouping (except
 - soloists no visible bracket)
- Several score types:
- FullScore (same instruments share a staff),
 LongScore (two staves for identical instruments
 - ChoralScore (only vocal voices, no
 - accompaniment)
 - etc.





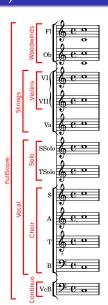
Score Structure (Inherent Hierarchy of Orchestral Scores)

- Each instrument is named using its standard abbreviation (VI, VII, Va, Vc, FagI, FagII, ObI, ObII, S, A, T, B, O, etc.)
- Each group of identical instruments (e.g. Violins, flutes, oboes, etc.) also use their standard abbreviation (V, FI, Ob, etc.); sharing same staff or curly braces for grouping
- Groups of instruments: Wd (Woodwinds), Br (Brass), Str (Strings, except cellos/basses), Solo (all vocal soloists), Choir (S, A, T, B), Vocal (Solo + Choir); square brackets for grouping (except soloists no visible bracket)
- Several score types:
 - FullScore (same instruments share a staff),
 LongScore (two staves for identical instruments
 - VocalScore (Solo+Choir, Piano reduction "P")
 - ChoralScore (only vocal voices, no accompaniment)
 - etc.





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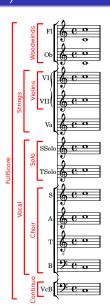
Instrumental Staff Gropups (Pre-Defined Order)





- Each instrument is named using its standard abbreviation (VI, VII, Va, Vc, FagI, FagII, ObI, ObII, S, A, T, B, O, etc.)
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Instrumental Staff Gropups (Pre-Defined Order)





Overview

- Requirements for Professional Music Publishing
- 2 LilyPond for Music Typesetting
- Structure of a Score
- OrchestralLily
 - The sample music
 - Full Score
 - Instrumental parts
 - Cue Notes
 - Transposition
 - Vocal Score
 - Modifying Individual Staves
 - Special Types of Staves (Figured Bass, Drum, Tablature)
- 5 Text parts of Editions: Preface & Cover
- **1** Templates



The sample music

```
\include "orchestrallily/orchestrallily.ily"
\include "orchestrallily/olv_settings_names.ilv"
\header {
  title = "A cadenza"
CadenzaPieceNameTacet = "Cadenza tacet"
% Flute and Violin:
CadenzaFIIMusic = \relative c'' { e4 a g b, | c1 \bar "|." }
CadenzaVIMusic = \relative c'' {
 c16[ege]d[faf]e[gec]b[dbg]|
c1 \bar "|."
% The vocal voices:
CadenzaSMusic = \relative c'' {
  c4\p d8[( c]) e4-. d-. | c1 \bar "|." }
CadenzaSLyrics = \lyricmode {
  Oh, be __ hap — py now! }
CadenzaAMusic = \relative c'' {
  g4 f4 e4 f | e1 \bar "|." }
CadenzaALyrics = \lyricmode {
  Oh, be hap - py now! }
% Continuo: Organ / Celli / Bassi / Bassoon
CadenzaBCMusic = \relative c { c4 f4 g g, | c1 \bar "|." }
CadenzaFiguredBassMusic = \figuremode {
  s4 <6>8 <5> <6 4>4 <5 3> | s1
```

External include file

- Contains all music and lyrics definitions
- All variables start with "Cadenza"
- Defines a global work title
- Defines a tacet title

The sample music

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\include "orchestrallily/orchestrallily.ily"
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- External include file
- Contains all music and lyrics definitions
- All variables start with "Cadenza"
- Defines a global work title
- Defines a tacet title

```
\version "2.13.17"
\include
  "orchestrallily/oly_settings_fullscore.ily"
\include "music—definitions.ily"
\setCreateMIDI ##t
\setCreatePDF ##t
\createScore #"Cadenza" #'("FullScore")
```





- Compilable LilyPond file (See compilation)
- Includes our "music-definitions.ily"
- Generate score for "FullScore"
- Create MIDI and PDF output (Listen!)
- OrchestralLily knows e.g. bass clef for the continuo (overriding is possible).
 Also e.g. C-clef for Viola or Trombone

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\version "2.13.17"
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- Includes our "music-definitions.ily"
- Generate score for "FullScore"
- Create MIDI and PDF output (Listen!)
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 Also e.g. C-clef for Viola or Trombone

Instrumental parts

Generating Instrumental parts

```
\version "2.13.17"
\include "music-definitions.ily"
\include
  orchestrallily / oly_settings_instrument.ily"
\header { instrument = \VIInstrumentName }
\createScore #"Cadenza" #'("VI")
                 A cadenza
                                     Violino I
```

- Same method to generate individual instrumental part than full score
- "instrument" name

If no music is defined for

Instrumental parts

\version "2.13.17"

Generating Instrumental parts

```
\include "music-definitions.ily"
\include
  orchestrallily / oly_settings_instrument.ily"
\header { instrument = \VIInstrumentName }
\createScore #"Cadenza" #'("VI")
                A cadenza
                                     Violino I
```



- Same method to generate individual instrumental part than full score
- "instrument" name header field used

If no music is defined for



Music Publishing LilyPond & Orc 00000 00000000 Instrumental parts

Generating Instrumental parts

Cadenza tacet

```
\version "2.13.17"
\include "music-definitions.ily"
\include
"orchestrallily/oly_settings_instrument.ily"
\header { instrument = \VIInstrumentName }
\createScore #"Cadenza" #'("VI")

A cadenza Violino I
```

```
    Same method to generate
individual instrumental
part than full score
```

 "instrument" name header field used

```
\text{version "2.13.17"} \include "music-definitions.ily" \header { instrument = \OblinstrumentName } \text{createScore $\#"Cadenza" $\pm'("Obl")} \end{array} \text{A cadenza} \text{Oboe I}
```

 If no music is defined for a desired instrument, a "Tacet" header is printed

```
\addQuote #"Flute1" \CadenzaFIIMusic

CadenzaFIIIMusic = \relative c'' {
  \namedCueDuring #"Flute1" #UP "Fl.1"
    "Fl.2" { R1 } |
  g1 \bar "|."
}
```

```
\text{version "2.13.17"} \text{include "music-definitions.ily"} \text{include "music-definitions-flute2.ily"} \text{% The Flute 2 part: \text{createScore $\psi$"Cadenza" $\psi$"("FIII")} \text{$A$ cadenza} \text{Fl.1 J Fl.2} \text{Flauto II} \text{$\frac{1}{2}$ $\frac{1}{2}$ $\frac
```

- Quotable music defined with \addQuote (name assigned)
- Cue notes added directly in Flute 2 part
- Using \cueDuring or \namedCueDuring for instrument names

```
\addQuote #"Flute1" \CadenzaFIIMusic

CadenzaFIIIMusic = \relative c'' {
  \namedCueDuring #"Flute1" #UP "Fl.1"
    "Fl.2" { R1 } |
  g1 \bar "|."
}
```

```
\version "2.13.17"
\include "music-definitions.ily"
\include "music-definitions-flute2.ily"

% The Flute 2 part:
\createScore #"Cadenza" #'("FIII")

A cadenza

Flauto II
```

- Quotable music defined with \addQuote (name assigned)
- Cue notes added directly in Flute 2 part
- Using \cueDuring or \namedCueDuring for instrument names

```
\addQuote #"Flute1" \CadenzaFIIMusic

CadenzaFIIIMusic = \relative c'' {
  \namedCueDuring #"Flute1" #UP "Fl.1"
    "Fl.2" { R1 } |
  g1 \bar "|."
}
```

```
\version "2.13.17"
\include "music-definitions.ily"
\include "music-definitions-flute2.ily"

% The Flute 2 part:
\createScore #"Cadenza" #'("FIII")

A cadenza

Fl.1 J Fl.2

Flauto II
```

- Quotable music defined with \addQuote (name assigned)
- Cue notes added directly in Flute 2 part
- Using \cueDuring or \namedCueDuring for instrument names

```
\addQuote #"Flute1" \CadenzaFIIMusic

CadenzaFIIIMusic = \relative c'' {
  \namedCueDuring #"Flute1" #UP "Fl.1"
    "Fl.2" { R1 } |
  g1 \bar "|."
}
```

```
\text{version "2.13.17"} \text{include "music-definitions.ily"} \text{include "music-definitions-flute2.ily"} 
% The Flute 2 part: \text{createScore $\#$"Cadenza" $\#$'("FIII")} 

A cadenza
```

- Quotable music defined with \addQuote (name assigned)
- Cue notes added directly in Flute 2 part
- Using \cueDuring or \namedCueDuring for instrument names

```
\version "2.13.17"
\include "music-definitions.ily"
\include "music-definitions-flute2.ily"

% remove the cues in Flute 2:
\createNoCuesScore #"Cadenza" #'("FlLong")
```

A cadenza



- Full scores or combined flute parts should not show cue notes
- Use \createNoCuesScore instead of \createScore

```
\version "2.13.17"
\include "music-definitions.ily"
\include "music-definitions-flute2.ily"

% remove the cues in Flute 2:
\createNoCuesScore #"Cadenza" #'("FlLong")
```

A cadenza



- Full scores or combined flute parts should not show cue notes
- Use \createNoCuesScore instead of \createScore

- Transposing a whole piece (e.g. Schubert song for bass/alto voice)
- Transposing instrument (sounding pitch different from written pitch); e.g.
 Clarinets in B flat, E flat; Horn in D; etc.



- TransposeFrom and TransposeTo
- If not given, c is assumed
- Key should always be explicitly given (otherwise default will be C major for transposed(!) output)

- Transposing a whole piece (e.g. Schubert song for bass/alto voice)
- Transposing instrument (sounding pitch different from written pitch); e.g.
 Clarinets in B flat, E flat; Horn in D; etc.

```
\version "2.13.17"
\include "music-definitions.ily"

% We need to give the key explicitly,
% so that it will also be transposed:
CadenzaVIKey = \key c \major
% Transpose to g major
CadenzaVITransposeFrom = g
\createScore #"Cadenza" #'("VI")

A cadenza

Violino I
```

- TransposeFrom and TransposeTo
- If not given, c is assumed
- Key should always be explicitly given (otherwise default will be C major for transposed(!) output)

- Transposing a whole piece (e.g. Schubert song for bass/alto voice)
- Transposing instrument (sounding pitch different from written pitch); e.g.
 Clarinets in B flat, E flat; Horn in D; etc.

```
\version "2.13.17"
\include "music-definitions.ily"

% We need to give the key explicitly,
% so that it will also be transposed:
CadenzaVIKey = \key c \major
% Transpose to g major
CadenzaVITransposeFrom = g
\createScore #"Cadenza" #'("VI")

A cadenza

Violino I
```

- TransposeFrom and TransposeTo
- If not given, c is assumed
- Key should always be explicitly given (otherwise default will be C major for transposed(!) output)

Instrumental parts

- Transposing a whole piece (e.g. Schubert song for bass/alto voice)
- Transposing instrument (sounding pitch different from written pitch); e.g.
 Clarinets in B flat, E flat; Horn in D; etc.

```
\version "2.13.17"
\include "music—definitions.ily"

% We need to give the key explicitly,
% so that it will also be transposed:
CadenzaVIKey = \key c \major
% Transpose to g major
CadenzaVITransposeFrom = g
\createScore #"Cadenza" #'("VI")

A cadenza

Violino I
```

- TransposeFrom and TransposeTo
- If not given, c is assumed
- Key should always be explicitly given (otherwise default will be C major for transposed(!) output)

Vocal Score: Choir and Piano Reduction

Vocal Score

```
CadenzaPIMusic = \relative c'' {
    \twoVoice {
      c16 [ e g e] d[ f a f] e[ g e c] b[ d b g] |
    } {
      e4 a < g c > 4 < b f > 4
    } | % 2
    < c g e > 1 \bar "|."
}
CadenzaPIIMusic = \relative c {
      <c g'>4 f < g c > 4 < g d'> | % 2
    < c c, > 1 \bar "|."
}
```

```
\text{version "2.13.17"} \include "music-definitions.ily" \text{createScore #"Cadenza" #'("VocalScore")}

Oh, be hap - py now!
```

- Piano reduction defined like any other music
- "PI" (right hand) and "PII" (left hand) as names
- \twoVoice {...} {...} used for temporary voice splitting (stemp up/down)

• Very short!

Vocal Score: Choir and Piano Reduction

Vocal Score

```
CadenzaPIMusic = \relative c'' {
    \twoVoice {
      c16[ege]d[faf]e[gec]b[dbg]|
    } {
      e4 a < g <> 4 < b f>4
} | % 2
      <c ge>1 \bar "|."
}
CadenzaPIIMusic = \relative c {
      <c g'>4 f < g <> 4 < g d'> | % 2
      <c c.>1 \bar "|."
}
```

```
\text{version "2.13.17"} \include "music-definitions.ily" \text{createScore #"Cadenza" #'("VocalScore")}

P
Oh, be hap - py now!
Oh, be hap - py now!
```

- Piano reduction defined like any other music
- "PI" (right hand) and "PII" (left hand) as names
- \twoVoice {...} {...} used for temporary voice splitting (stemp up/down)

• Very short!

Vocal Score: Choir and Piano Reduction

Vocal Score

```
CadenzaPIMusic = \relative c'' {
    twoVoice {
        c16 [ e g e] d[ f a f] e[ g e c] b[ d b g] |
        } {
        e4 a < g c > 4 < b f > 4
        } | % 2
        < c g e > 1 \bar "|."
    }
CadenzaPIIMusic = \relative c {
        < c g'> 4 f < g c > 4 < g d'> | % 2
        < c c, > 1 \bar "|."
}
```

```
\text{version "2.13.17"} \text{include "music-definitions.ily"} \text{createScore #"Cadenza" #'("VocalScore")} \text{$P$} \text{Oh, be hap py now!} \text{$Oh, be hap py now!} \text{$Oh, be hap py now!} \text{$P$} \text{$Oh, be hap py now!} \text{$Oh, be hap py now
```

- Piano reduction defined like any other music
- "PI" (right hand) and "PII" (left hand) as names
- \twoVoice {...} {...} used for temporary voice splitting (stemp up/down)

• Very short!

Modifying Individual Staves and Voices

Suppose we now want to modify the vocal score so that:

vocal staves are smaller

Vocal Score

- Soprano noteheads colored red
- Alto lyrics printed italic



- All modifications only in
 - *StaffModifications,
 - *VoiceModifications and
 - *LyricsModifications



Modifying Individual Staves and Voices

Suppose we now want to modify the vocal score so that:

vocal staves are smaller

Vocal Score

- Soprano noteheads colored red
- Alto lyrics printed italic

```
\version "2.13.17"
\include "music-definitions.ily"
CadenzaSStaffModifications = \with {
  fontSize = #-3
  \override StaffSymbol #'staff-space
       \#(magstep -3)
Cadenza A Staff Modifications =
     \ CadenzaSStaffModifications
CadenzaChStaffModifications =
     \ CadenzaSStaffModifications
CadenzaALyricsModifications = \with {
     \override LyricText #'font-shape =
      #'italic }
CadenzaSVoiceModifications = \with {
      override NoteHead #'color = #red
\createScore #"Cadenza" #'("VocalScore"
```



- All modifications only in
 - *StaffModifications,
 - *VoiceModifications and
 - *LyricsModifications variables



```
\version "2.13.17"
\include "music-definitions.ily"
CadenzaFiguredBassMusic = \figuremode {
  s4 <6>8 <5> <6 4>4 <5 3> | s1
\(\rightarrow\) createScore #"Cadenza" #'("Continuo")
                 A cadenza
    Organo 9: C
```

- Figured bass is entered as *FiguredBassMusic
- Figures placed inside \figuremode as < nr >.
- Automatically used by the "Continuo" instrument group (and similar)

Drum and Tab staves

```
\version "2.13.17"
\include "orchestrallily/orchestrallily.ily"
\header {
  title = "Drum and tab staves"
  composer = "Anonymous"
drumIMusic = \drummode { crashcymbal4 hihat8
       halfopenhihat }
drumIIMusic = \{ c4 c4 \}
tabularMusic = \{ c4 < e g > 8 d16 r16 \}
\orchestralScoreStructure #'(
  ("drumI" "DrumStaff" ())
  ("drumII" "RhythmicStaff" ())
  ("tabular" "TabStaff" ()))
\orchestralVoiceTypes #'(
  ("drumI" "DrumVoice")
  ("tabular" "TabVoice"))
\createScore #"Cadenza" #'("drumI" "drumII"
      "tabular")
```

Drum and tab staves



- OrchestralLily can be extended to other staff types
- Drum-/TabStaff already pre-defined

Overview

- Requirements for Professional Music Publishing
- 2 LilyPond for Music Typesetting
- Structure of a Score
- OrchestralLily
- 5 Text parts of Editions: Preface & Cover
- Templates
- Availability of OrchestralLily

- Written in plain LATEX, using the editionkainhofer.sty package.
- Macros for nice title page (colored background) and paper size (both depending on score type).
- PDF of LilyPond score included via pdfpages package.
- Table of contents also includes the movements of the score (automatically generated by OrchestralLily!)



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Templates: Generating file and directory hierarchy for a complete edition

- Music definitions for each movement have the same structure
- Each score file also has the exact same structure
- \Rightarrow Collect all information about score in one file, generate all input files (Makefile, music definitions, LaTeX, etc.) automatically with

orchestrallily/generate_oly_score.py!



Templates: Generating file and directory hierarchy for a complete edition

- Music definitions for each movement have the same structure
- Each score file also has the exact same structure
- ⇒ Collect all information about score in one file, generate all input files (Makefile, music definitions, LaTeX, etc.) automatically with orchestrallily/generate_olv_score.py!

```
"output_dir": "Cadenza",
"version": "2.13.11",
"template": "EK_Full",
"defaults": {
  "title": "A test for OrchestralLily",
  "composer": "Reinhold Kainhofer".
  "composerdate": "1977-".
  "vear": "2009".
   publisher": "Edition Kainhofer".
  "scorenumber": "EK-1040".
  "basename": "Cadenza".
  "parts": [
    {"id": "Cadenza", "piece": "A cadenza",
     "piecetacet": "Cadenza tacet"}.
  "instruments": [" FII"." VI"."S"."A"." Continuo"].
  "vocalvoices": ["S", "A"],
  "scores": ["Full", "Vocal", "Choral"].
"scores": ["Cadenza"],
"latex": {},
```

Resulting file structure:

```
./Cadenza/
    _orchestrallilv/
    Makefile
    Cadenza_Music_Cadenza.ily
    Cadenza_Score_Choral.lv
    Cadenza_Score_Full.ly
    Cadenza_Score_Vocal.lv
    Cadenza_Instrument_S.ly
    Cadenza_Settings_Global.ily
    _ Cadenza_Settings.ilv
    Cadenza_Settings_*Score.ily
    _ TeX_Cadenza_Include_Bio.itex
   __ TeX_Cadenza_Include_Coverpage.itex
    TeX_Cadenza_Include_KritBericht.itex
    TeX_Cadenza_Score_Full.tex
    TeX_Cadenza_Score_Vocal.tex
    _ TeX_Cadenza_Settings.itex
```



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Availability of OrchestralLily

OrchestralLily on the Web: Source code and Homepage

- Git repository (source code):
 http://repo.or.cz/w/orchestrallily.git
- Homepage: http://reinhold.kainhofer.com/orchestrallily/

License: Dual-licensed under CC BY-NC 3.0 and GPL v3.0

- Creative Commons: Attribution Non-commercial (BY-NC) 3.0 license
- GNU Public License: GPL v3.0

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