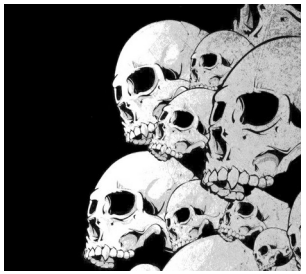
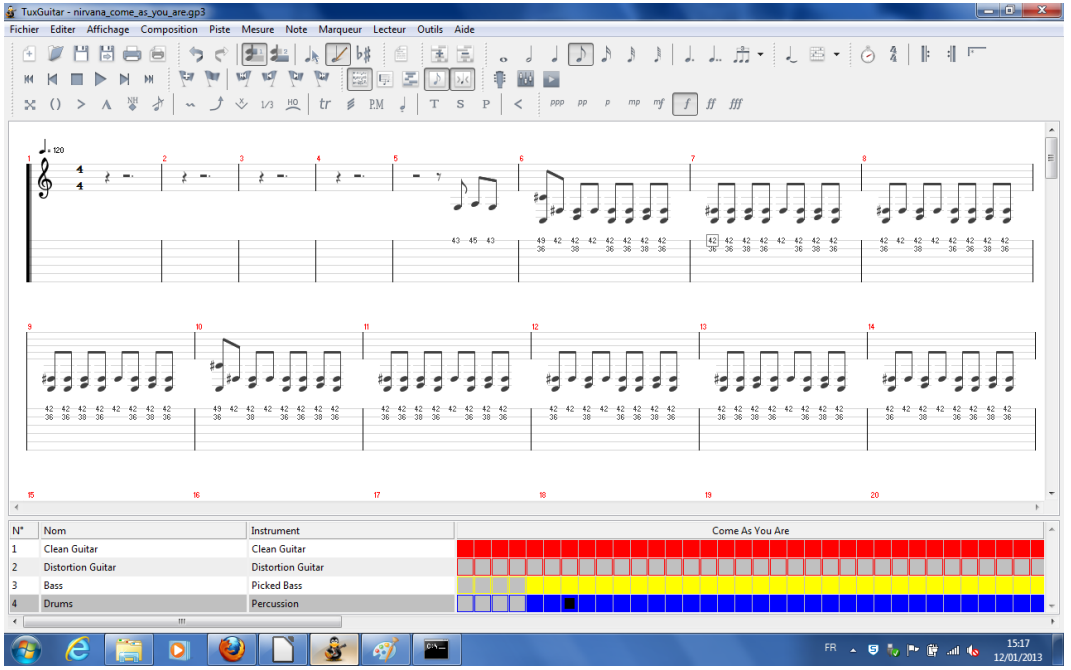
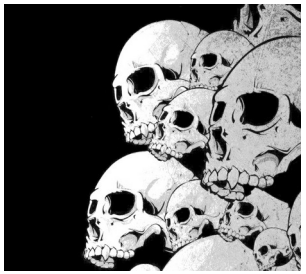


TuxGuitar



Y. Collette (ycollette.nospam@free.fr)

https://audinux.github.io



First settings

Some tuxguitar packages of certain Linux distributions do not have the fluidsynth module.
To activate the module, it may be necessary to download the binary archive of TuxGuitar from the website https://github.com/helge17/tuxguitar
Then you have to activate this module by going to the repertoire:

TUXGUITAR-1.2-Linux-X86/Share/Plugins/TUXGUITAR-FLUIDSYNTHE/META-INF/SERVICES

And edit the file:

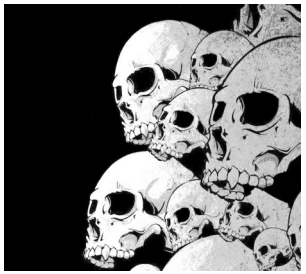
org.herac.toxGuitar.Gui.System.Plugins.tgplugin

This file contains only a line:

#org.herac.tuxguitar.player.jprl.midiport.fluidsynth.midioutPutPutProviderplugin

The comment must be deleted:

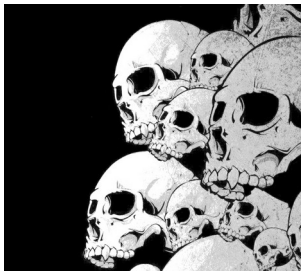
org.herac.toxGuitar.player.Jprl.midiport.fluidsynth.MidioutPutPortProviderPlugin



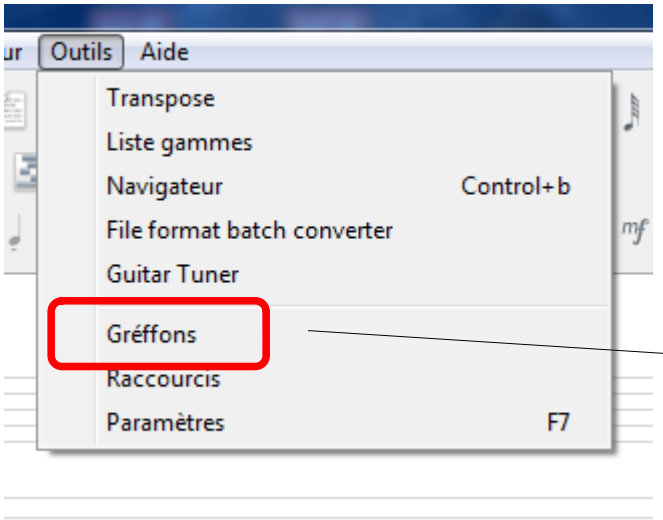
Compile the development version

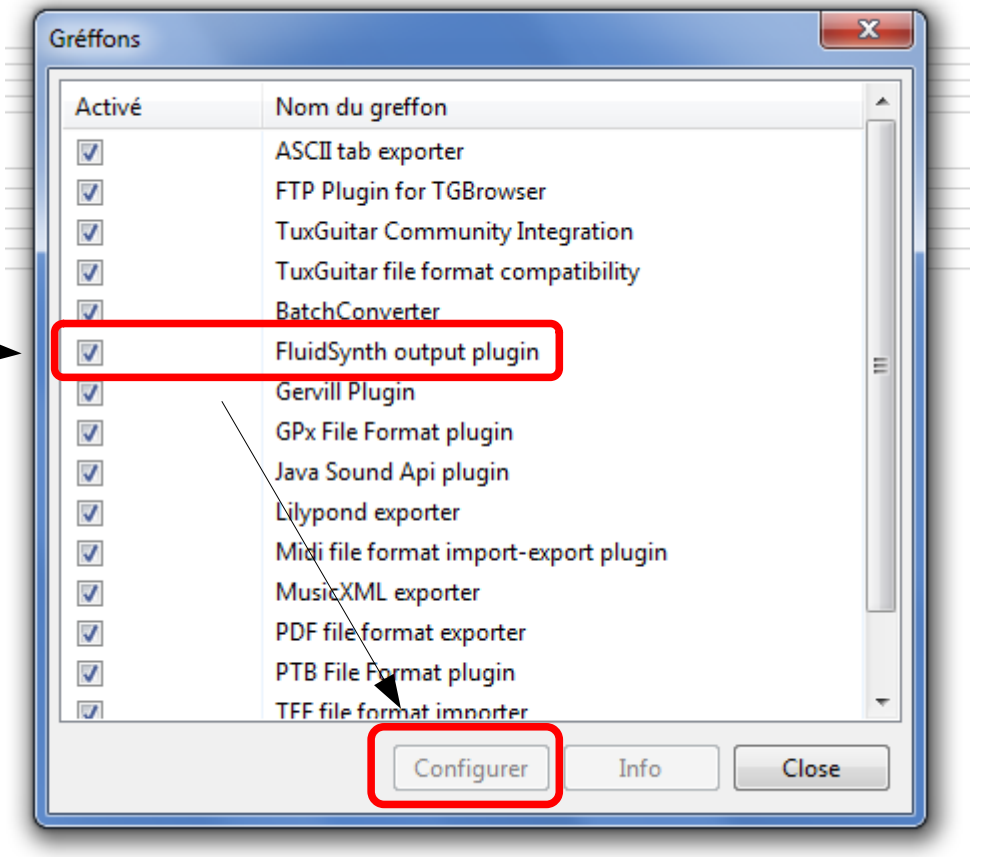
TuxGuitar's development version contains interesting new features.
To compile it, you have to:
- The C compiler (GCC) and Java (Openjdk).
- Maven (MVN3).
- Development files (Jack-Dev, Fluidsynth-Dev, Alsa-Dev).
- The Git Program

```
# Récupérer le code source de tuxguitar
$ git clone https://github.com/helge17/tuxguitar.git
$ cd desktop/build-scripts/tuxguitar-linux-swt

# Compilation du code
$ mvn clean package -Dnative-modules=true
  -Dtuxguitar-alsa.jni.cflags="-I/usr/lib/jvm/java/include -I/usr/lib/jvm/java/include/linux -O2 -fPIC"
  -Dtuxguitar-jack.jni.cflags="-I/usr/lib/jvm/java/include -I/usr/lib/jvm/java/include/linux -O2 -fPIC"
 -Dtuxguitar-fluidsynth.jni.cflags="-I/usr/llib/jvm/java/include -I/usr/lib/jvm/java/include/linux -O2
-fPIC"
 -Dtuxguitar-oss.jni.cflags="-I/usr/lib/jvm/java/include -I/usr/lib/jvm/java/include/linux -O2 -fPIC"

# We can now start TuxGuitar
$ cd target/tuxguitar-1.3-SNAPSHOT-linux-x86_64/
$ ./tuxguitar.sh
```



Sound libraries 1/7



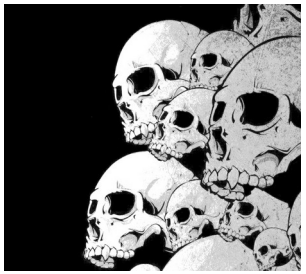


To adjust the sound under TUXGUITAR, the fluidsynth plugin must be adjusted.

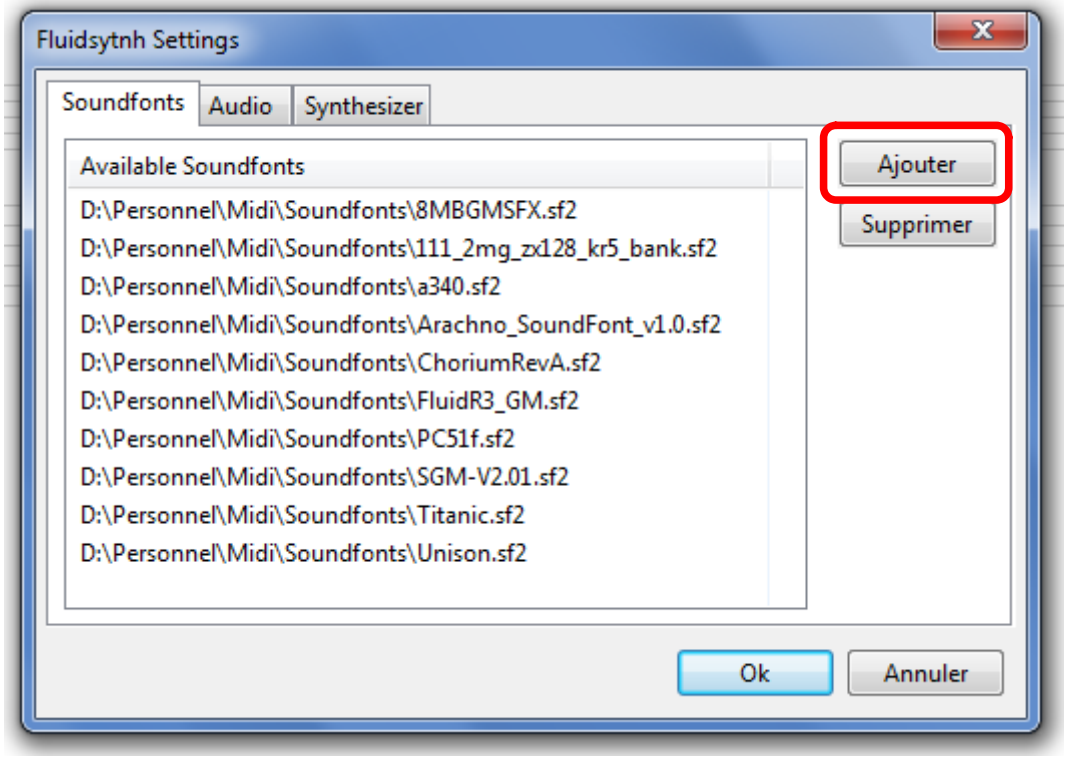
You have to start by clicking on tools → Plugins

Then, click on "Fluidsynth Output Plugin"

Finally, click on "Configure"



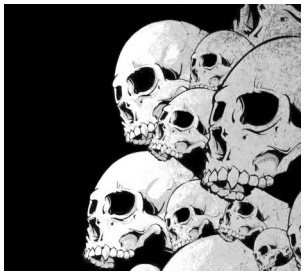
Sound libraries 2/7



We add the sound libraries by clicking on "Add".

Sound libraries are in SF2/3 formats.

They allow you to have a better sound rendering of the scores.

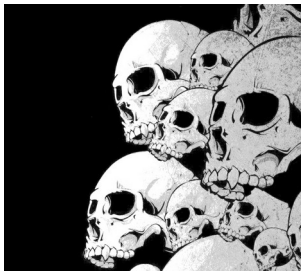


Sound libraries 3/7

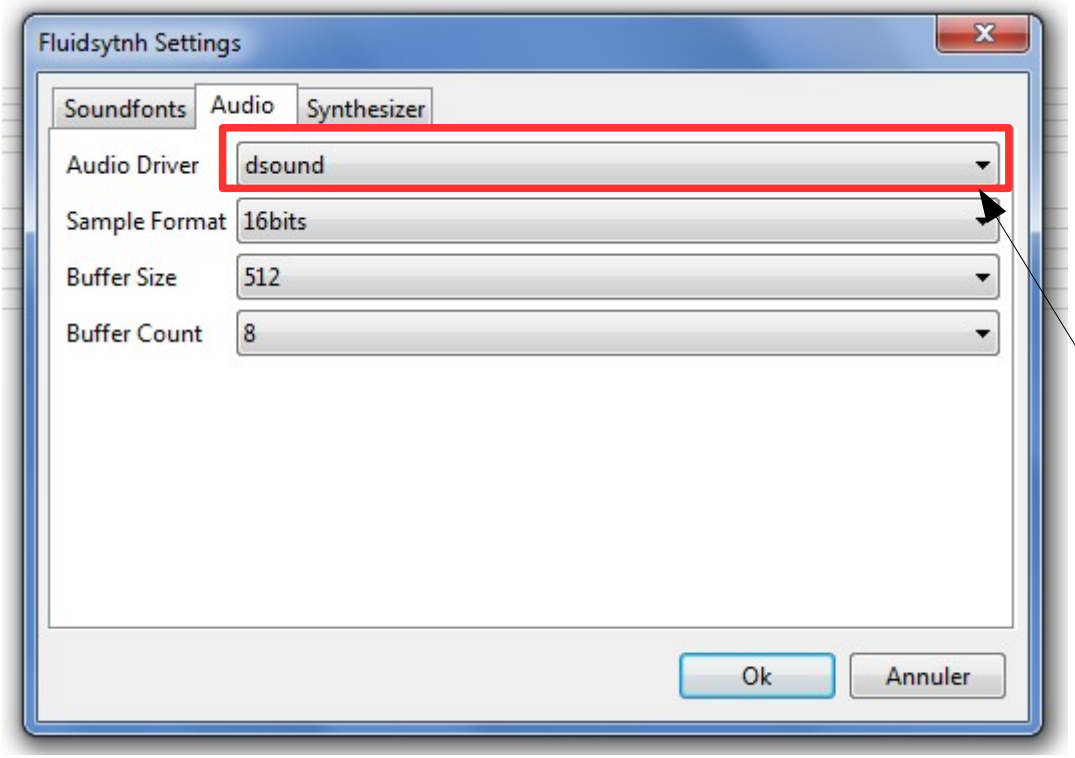
The list of available sound banks.
Depending on the style of the song, one bank will be better than another.

Taille	Nom
113 846 556	111_2mg_zx128_kr5_bank.sf2
7 557 598	8MBGMSFX.sf2
80 500 780	a340.sf2
91 051 196	ALL In ONE GM V1.1 Bank
(87Mo).sf2	
155 405 818	Arachno_SoundFont_v1.0.sf2
28 926 744	ChoriumRevA.sf2
1 689 192 084	CrisisGeneralMidi3.01.sf2
148 398 306	FluidR3_GM.sf2
52 489 526	JClive21(3).sf2
75 413 826	Musica Theoria v2 (GM).sf2
2 009 446 356	Musical Box.sf2
63 017 562	PC51f.sf2
247 406 594	SGM-V2.01.sf2
231 607 820	Titanic.sf2
29 258 148	Unison.sf2

The TuxGuitar audio system now supports the SF3 format which takes up much less space!



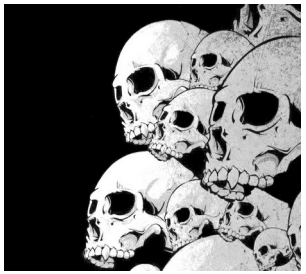
Sound libraries
4/7



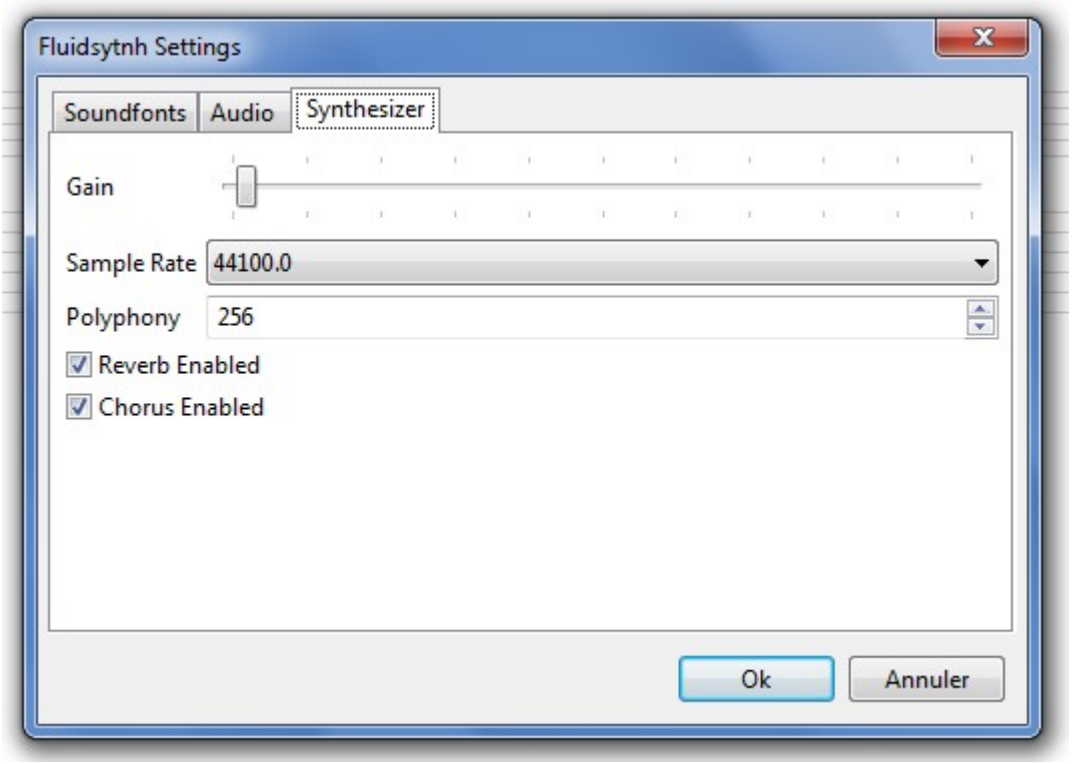
Technical parameters to adjust the "reactivity" of the sound rendering.

A priori, it is not necessary to touch these parameters.

Here we choose the type of driver:
- under windows: dsound
- under Linux: jack or other



Sound libraries 5/7



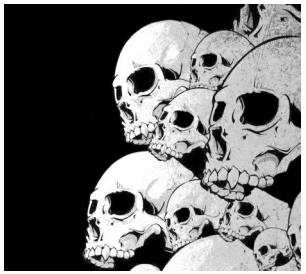
Gain: allows you to adjust the basic volume of the sound. It may be necessary to increase this volume slightly.

Sample rate: Sampling frequency - We check that it corresponds to Jack, otherwise, we do not touch.

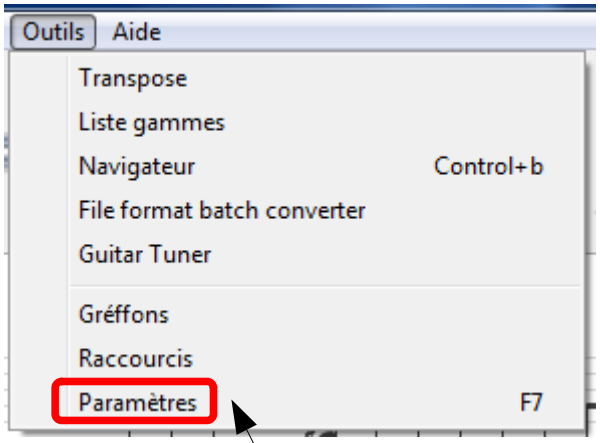
Polyphony: Number of notes playable simultaneously - we do not touch.

Reverb Enabled: if yes (checked) or not (not checked) we activate the reverberation. It increases the activity of the CPU, but the rendering is better.

Chorus Enabled: if so (checked) or not (not checked) we activate the reverberation. It increases the activity of the CPU, but the rendering is better.



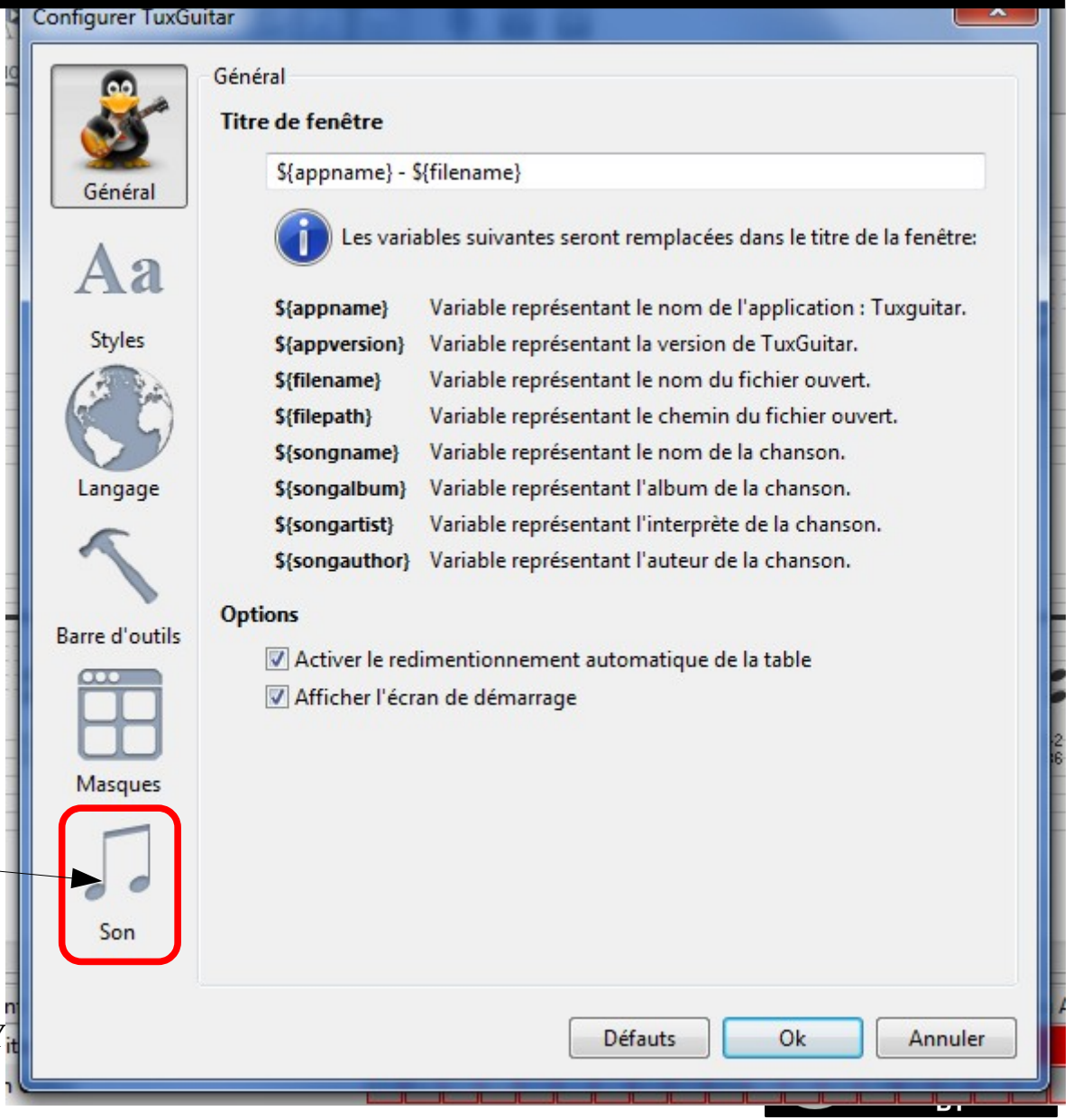
Sound libraries 6/7

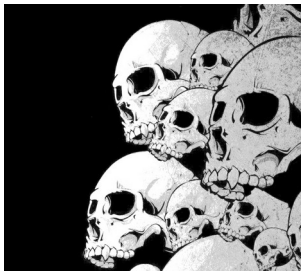


Once the plugin is adjusted, you must select the sound under TuxGuitar.

You have to click on "Tools → Settings"

Then on "Sound"





Sound libraries 7/7

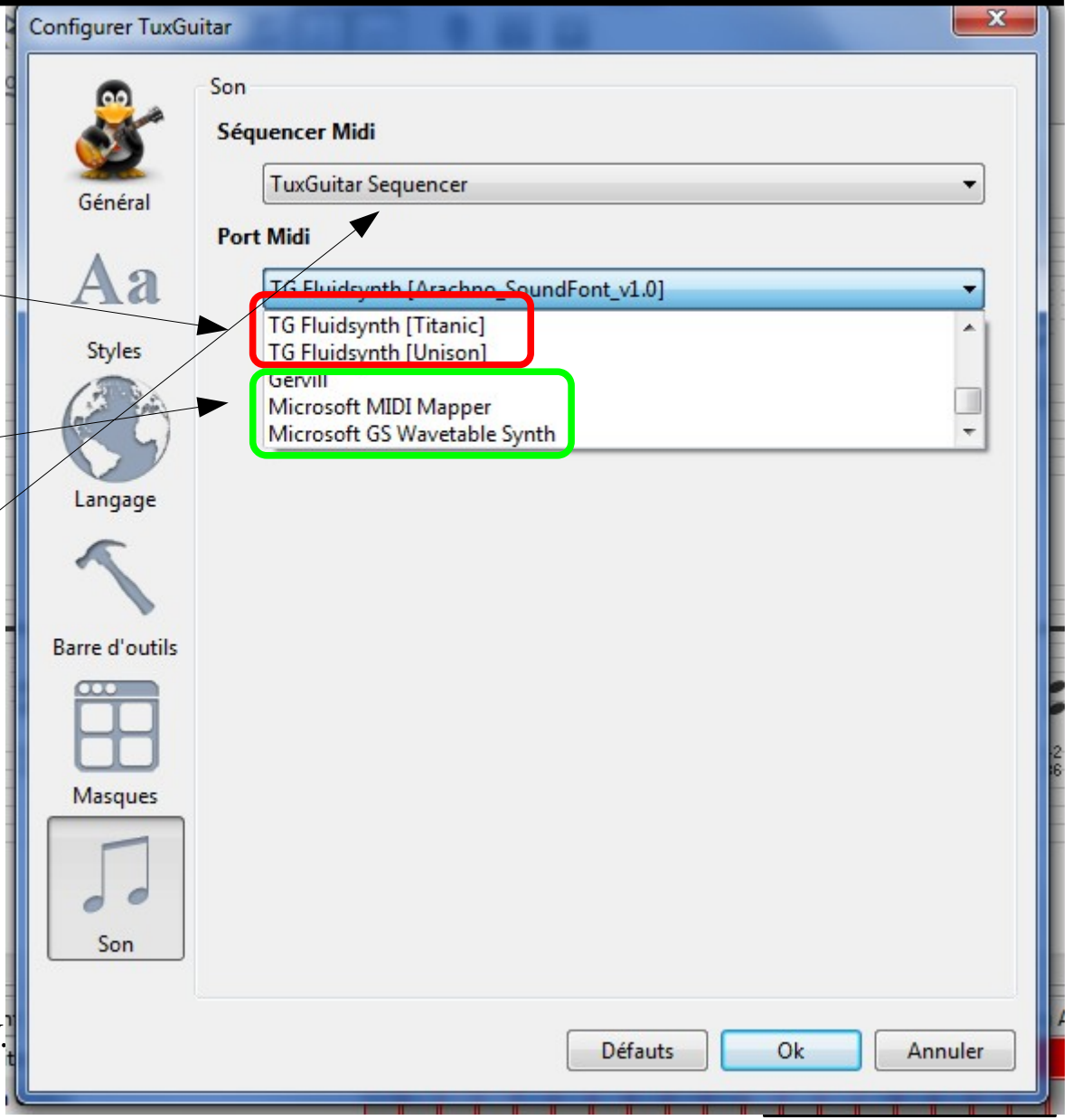
Finally, we choose his sound bank and then click on "OK".

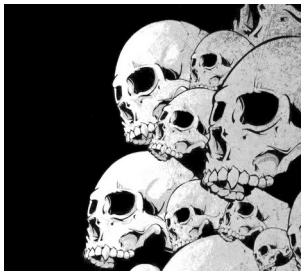
Fluidsynth sounds

Default sounds under Windows

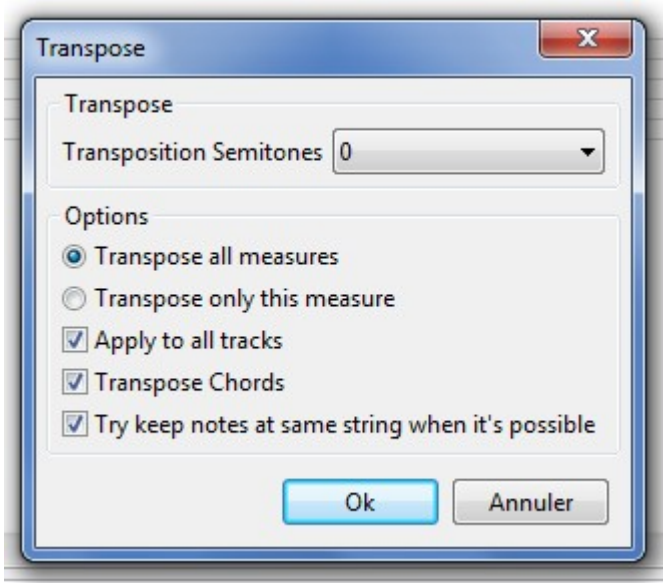
The type of module to play the piece:
- TuxGuitar Sequencer
- Real Time Sequencer
- Jack Sequencer (controllable by Qjackctl)

The second is more greedy in CPU.





Transpose a partition 1/3



Transposition semitones: Number of half-tone for transpositions. For example, 3 → We transpose from 3 semitones to the treble.

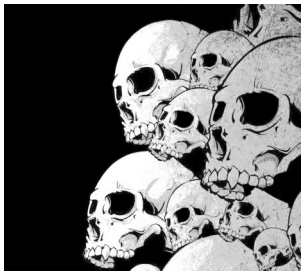
Transpose All Measures: Transpose all measures
Transpose Only this Messure: transpose only the current measurement

Apply To All Tracks: Transpose all tracks (except percussion tracks and non transposable instruments)

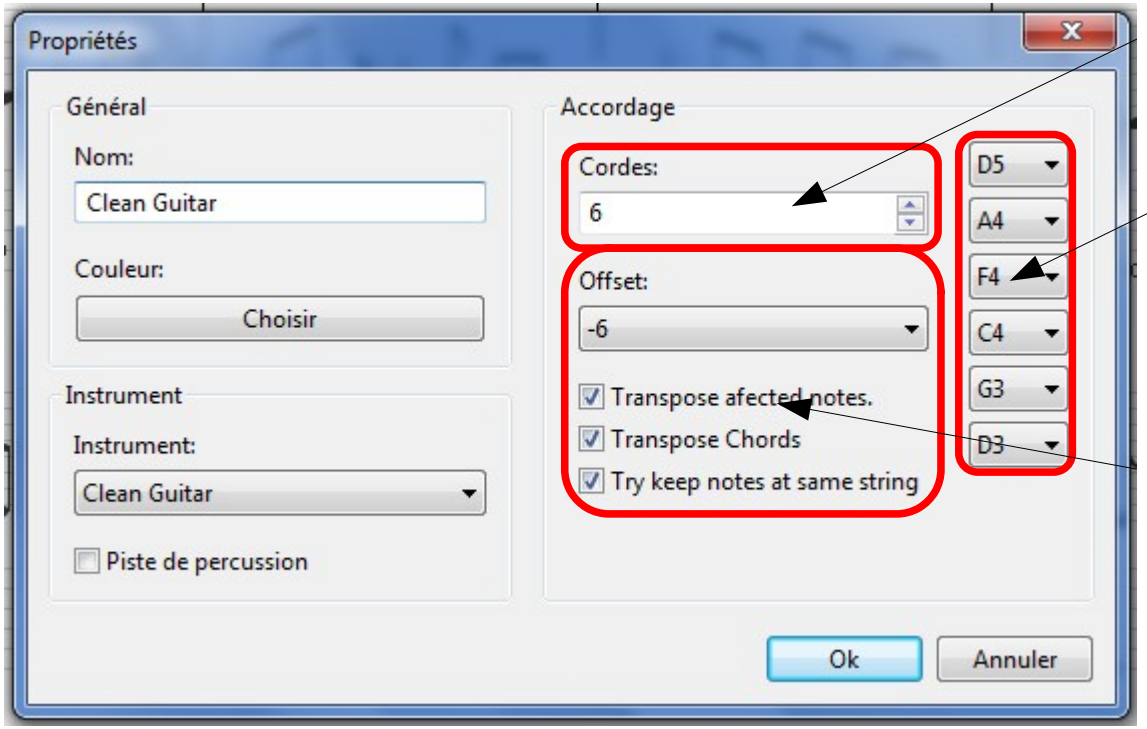
Transpose Chords: also transpose the chords.

Try to Keep Notes at Same String when it's possible: we try to keep the notes on the same cords.

An example: we transpose the guitar of "nirvana - comes as you are" in 1 tone.
In certain types of music, the guitar can be granted ½ or 1 tone to the bass.



Transpose a partition 2/3



Define the number of ropes of the instruments (4 for a bass)

The standard tuning of each strings for a classic guitar:
E5-B4-G4-D4-A3-E3 (from sharp to grave)

Offset: shift the sound rendering to the treble or the grave (-6 half-people here)

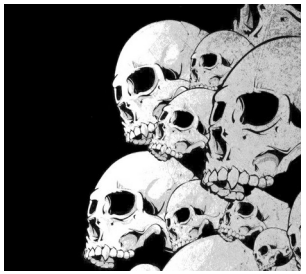
Transpose Affected Notes:
Transpose the notes

Transpose Chords:
Transpose the chords

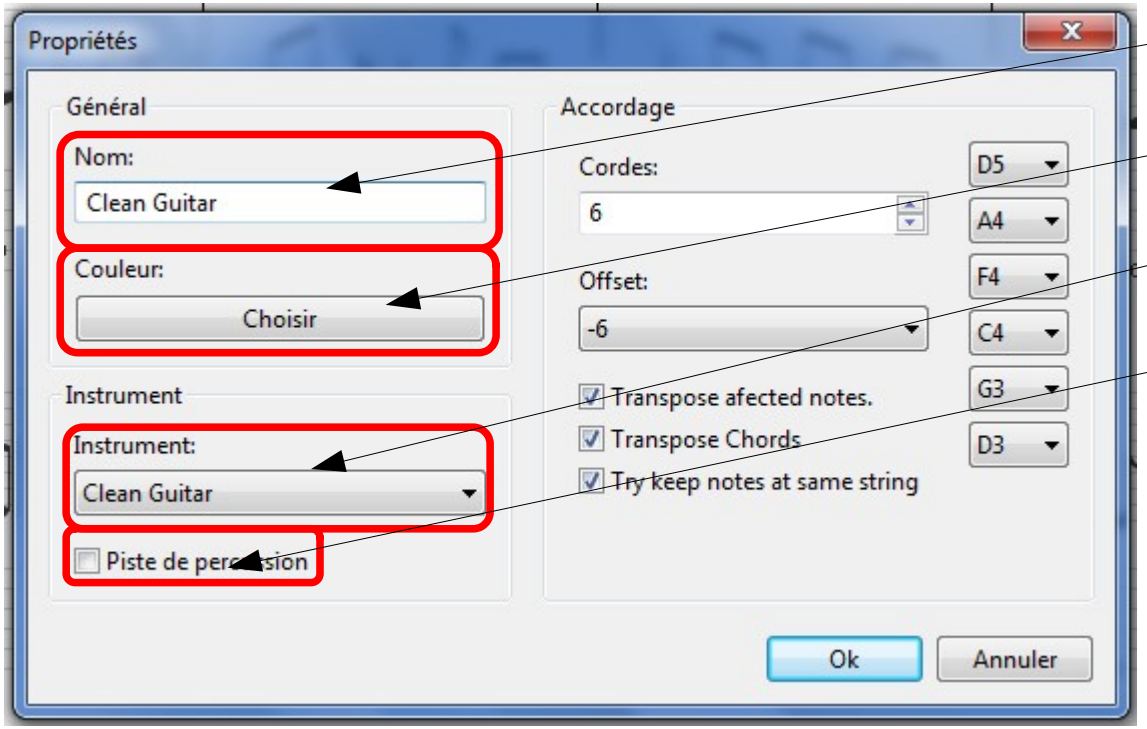
Try to Keep Notes at Same String:
Try to keep the notes on the same rope.

The Lanest of Engine: Anglo-Saxne:

A=La B=Si C=Do D=Re E=Mi F=Fa G=Sol



Transpose a partition 3/3



Instrument name

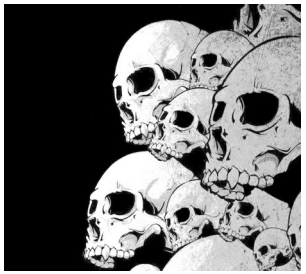
Track color

Instrument type

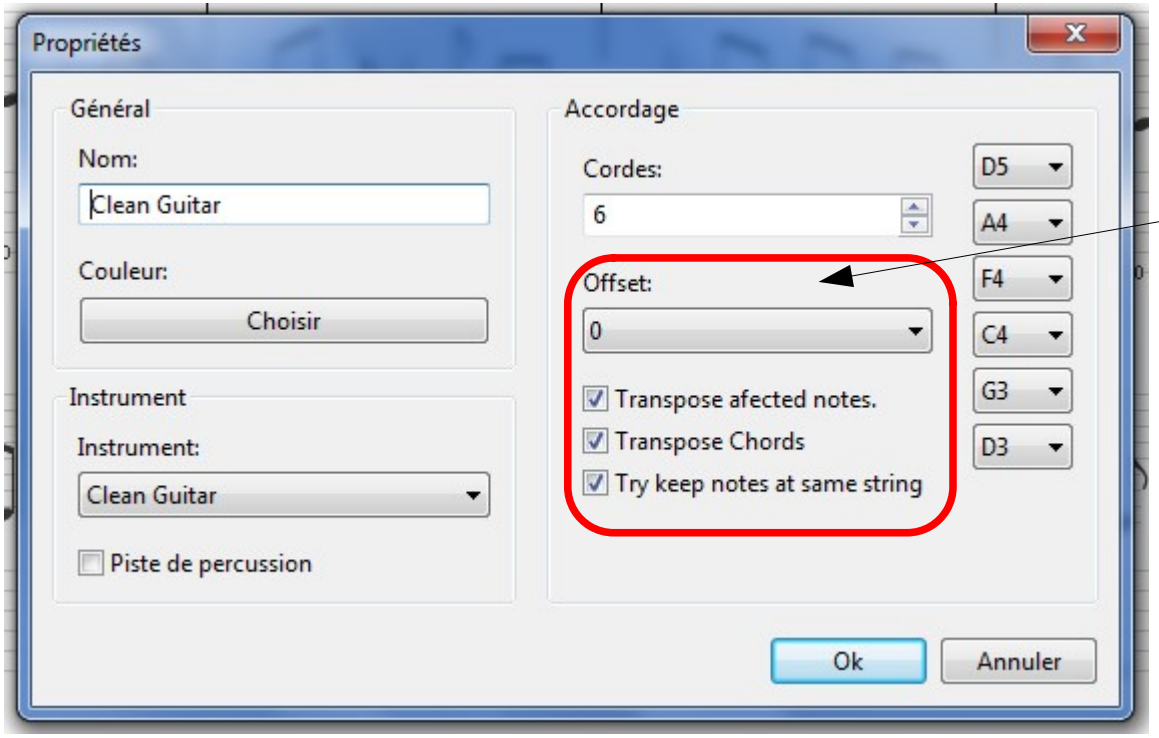
If we have a percussion track

For the example of Nirvana, after having the transposition, you have to go from:

D5-A4-F4-C4-G3-D3 in E5-B4-G4-D4-A3-E3



Transpose a partition Simple version



To transpose the sound of a track without touching the notation, there is the "offset":

Offset allows you to shift the track in semitones.

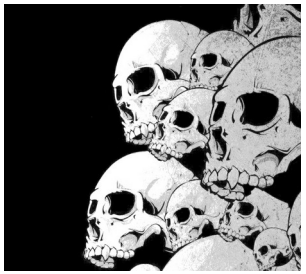
Offset: number of semitones of shift

Transpose Affected Notes: Transpose the notes

Transpose Chords: Tranpose the chords

Try Keep Notes at Same String: Try to keep the notes on the same rope.

Take the piece of Nirvana and do the same exercise using the "offset".
Offset = Low in English



Transpose a partition Summary

First method

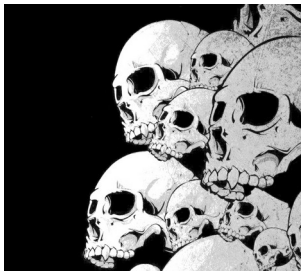
Advantage :
We transpose all the tracks at once (for sound) and just the guitar track that interests us.

Inconvenience :
Lots of steps.

Simple method

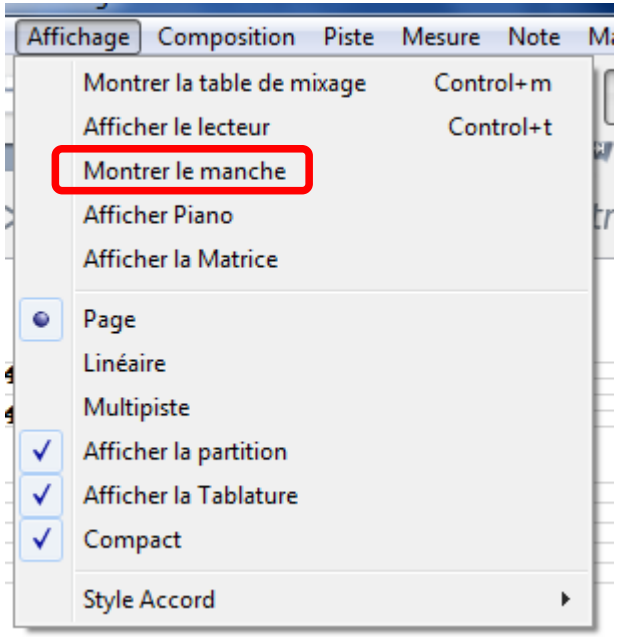
Advantage :
Not many steps.

Inconvenience :
We only transpose one track.

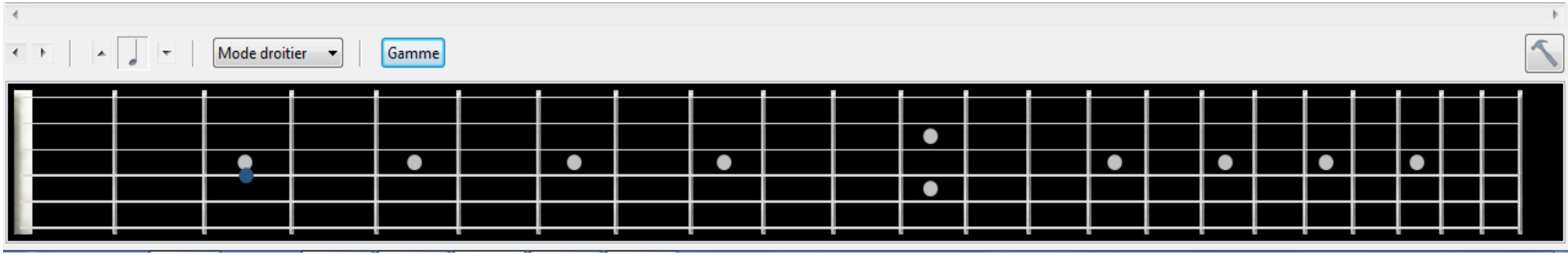


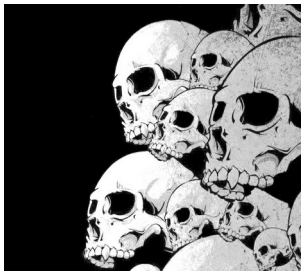
The ranges on the neck of the guitar - 1/4

We start by displaying the neck of the guitar



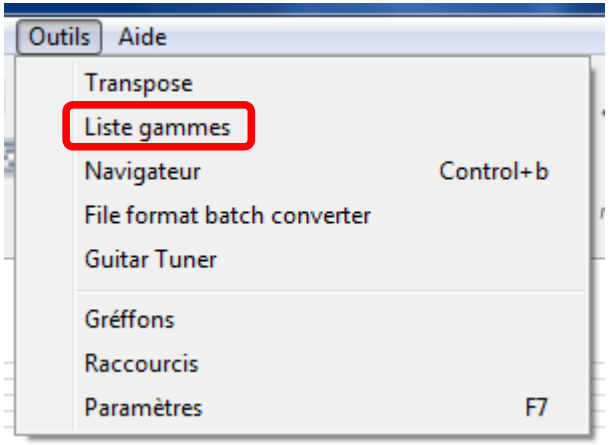
And we have a superb guitar neck that appears

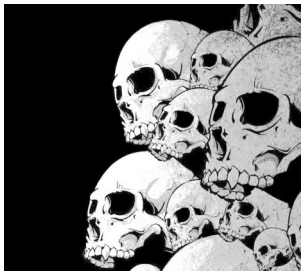




The ranges on the neck of the guitar - 2/4

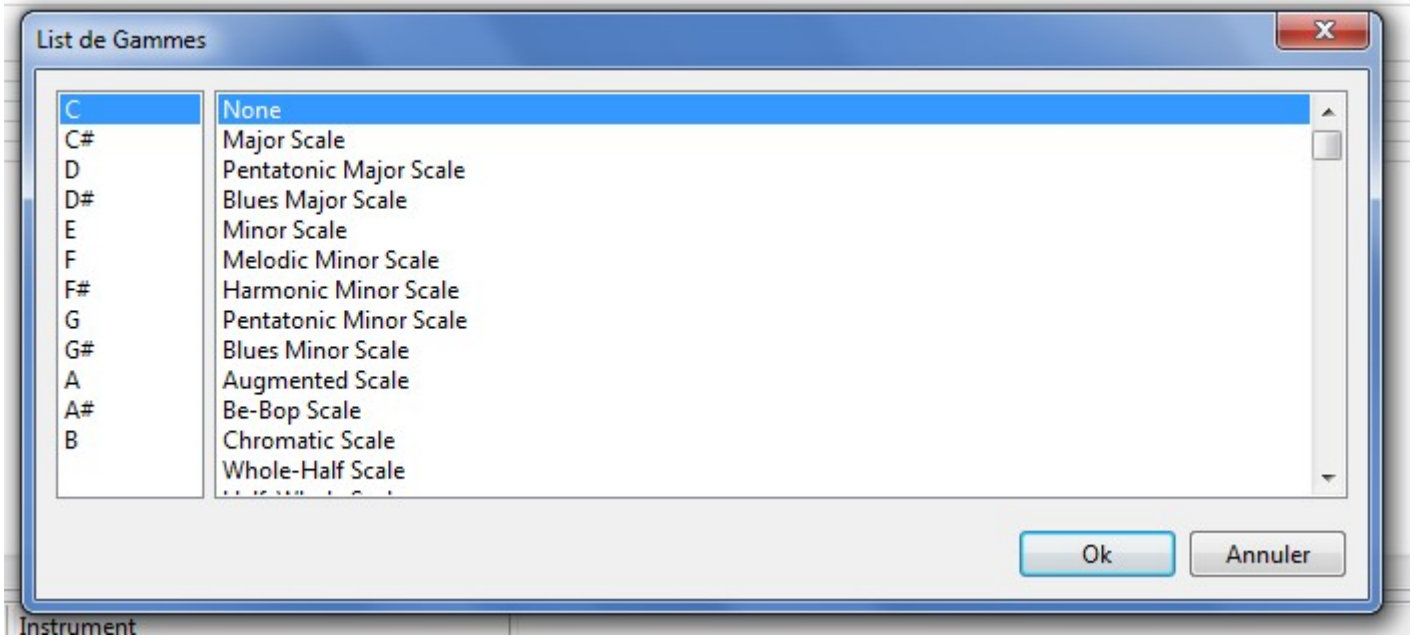
Then we click on the "range" button on the neck or on tools → ranges lists

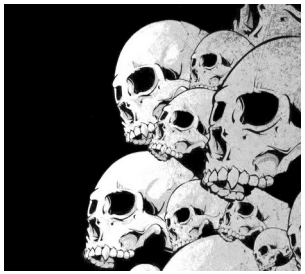




The ranges on the neck of the guitar - 3/4

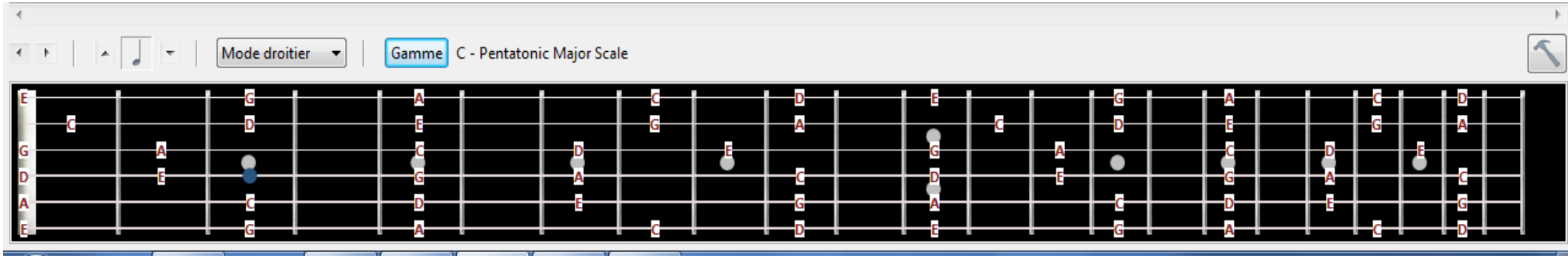
A window is displayed that allows us to choose the range:
First column: the note from which we will build the range
Second column: the name of the range you want to build



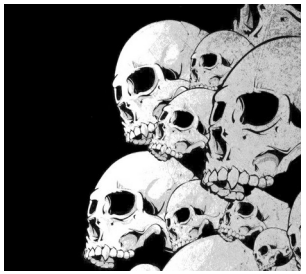


The ranges on the neck of the guitar - 4/4

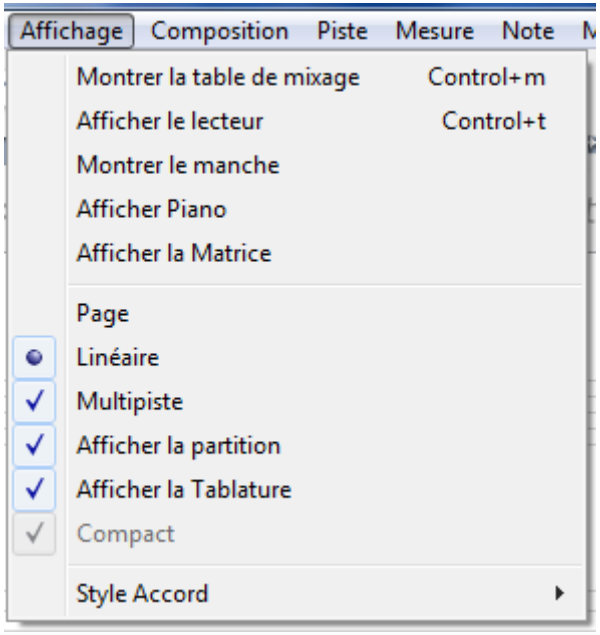
An example with a range of C (DO) "Pentatonic Major Scale" (major pentatonic)



The notes in this range appear on the neck with their names

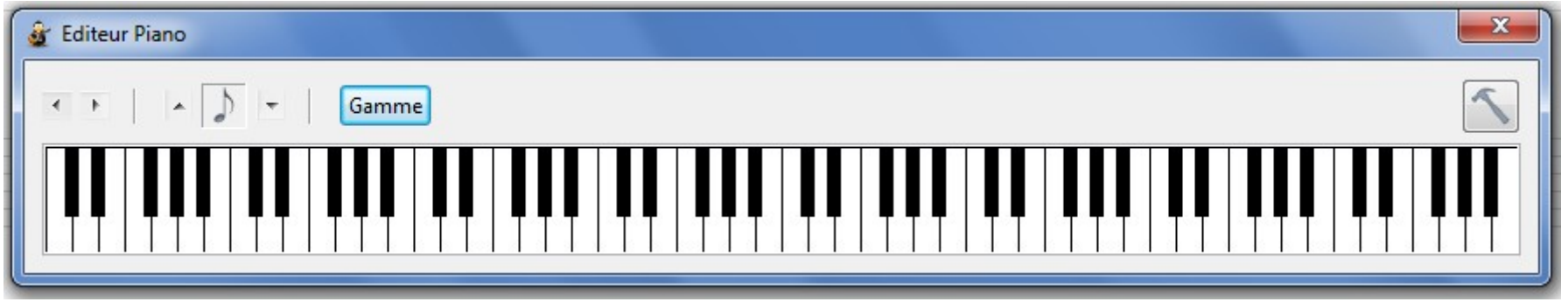


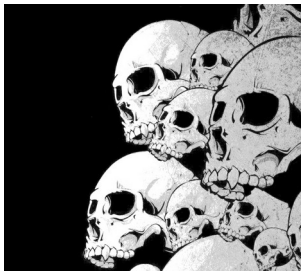
The ranges on the piano 1/2



Instead of a guitar handle, it is possible to have a piano keyboard.

You have to click on display → Show piano

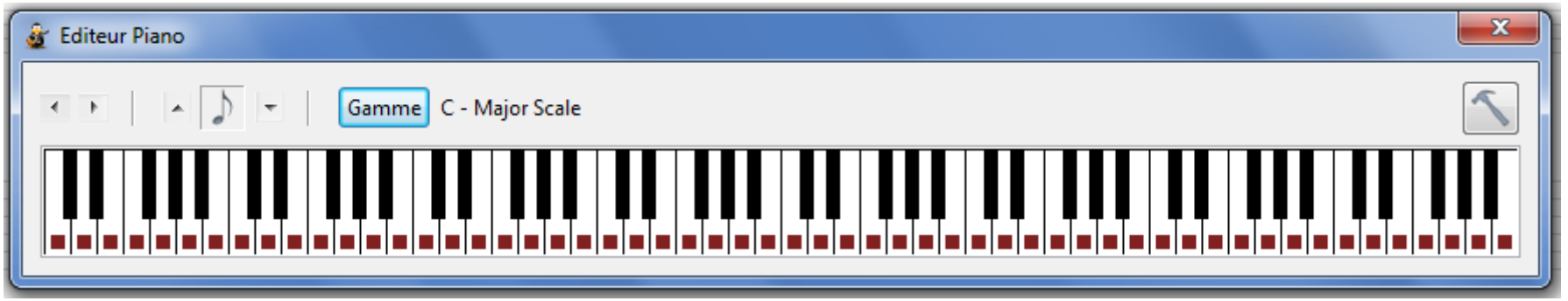




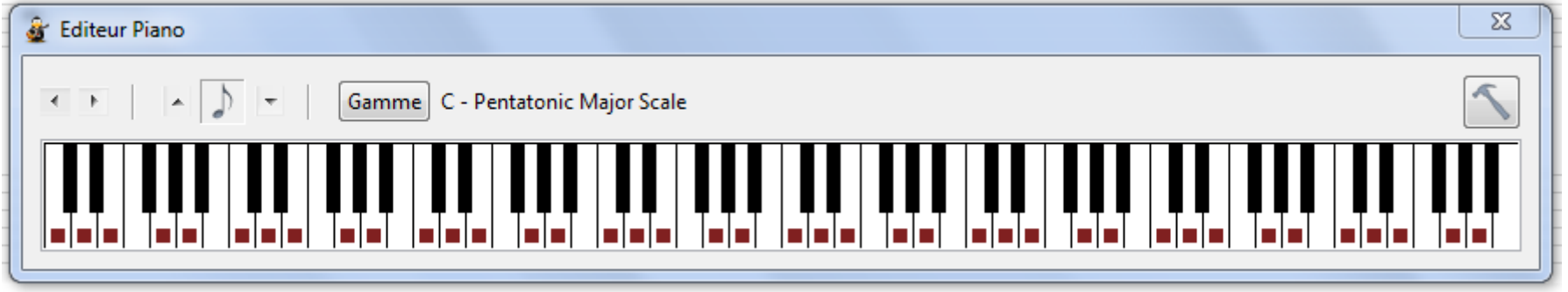
The ranges on the piano 2/2

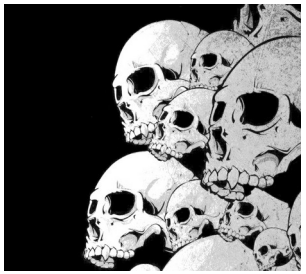
As with the guitar handle, it is possible to display the ranges on the piano.

We click on the range then we select the range to be displayed.
Example: a range of major do

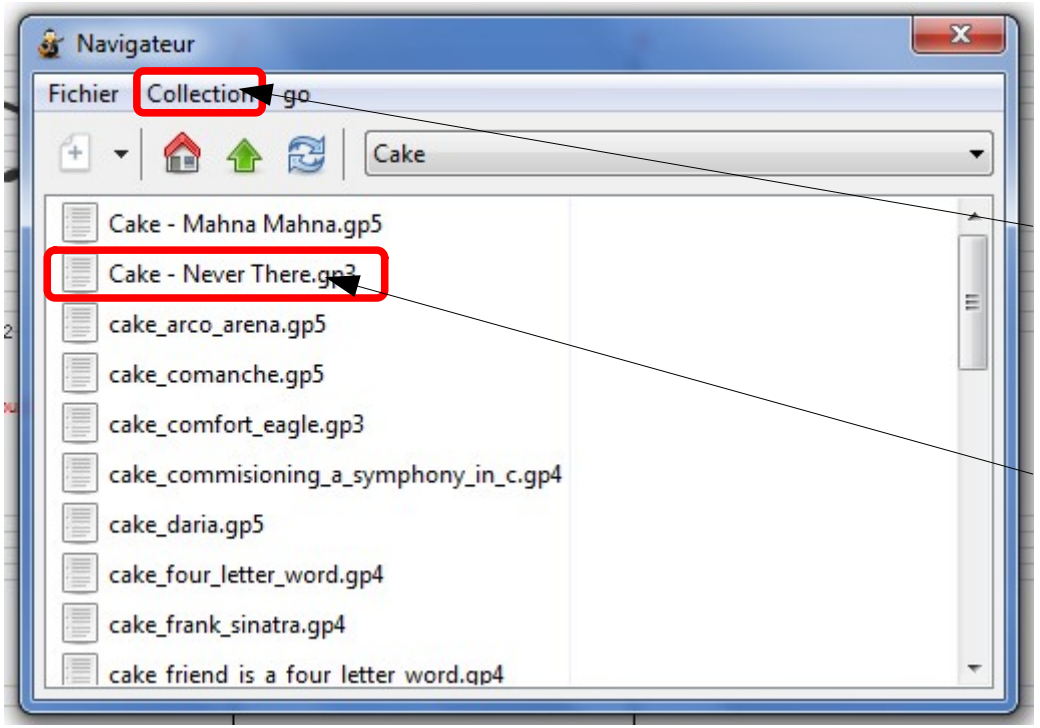


Example: a range of pentatonic major (blues).





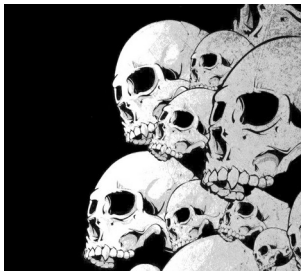
Manage tablature collections



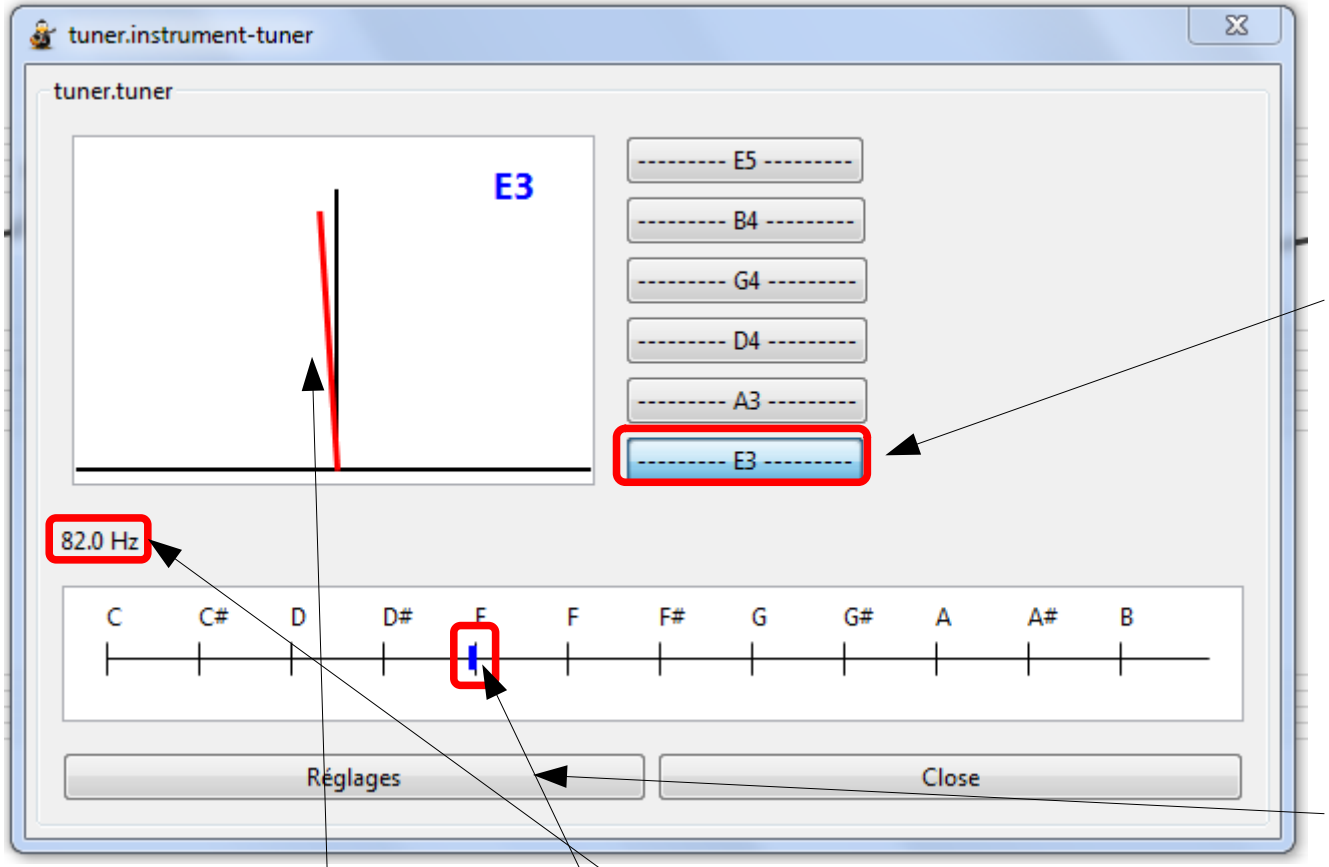
This tool allows you to build a collection of tablatures.

Collection: allows you to add / remove directories containing tablatures.

Once a collection has been selected, to open a partition, just click on a name.



The tuner



Depending on the selected track, we have the list of strings to be tuned.

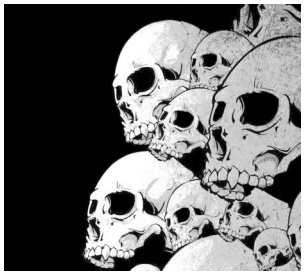
To tune a string, click on one of the buttons.

Above the high strings

Below the low strings.

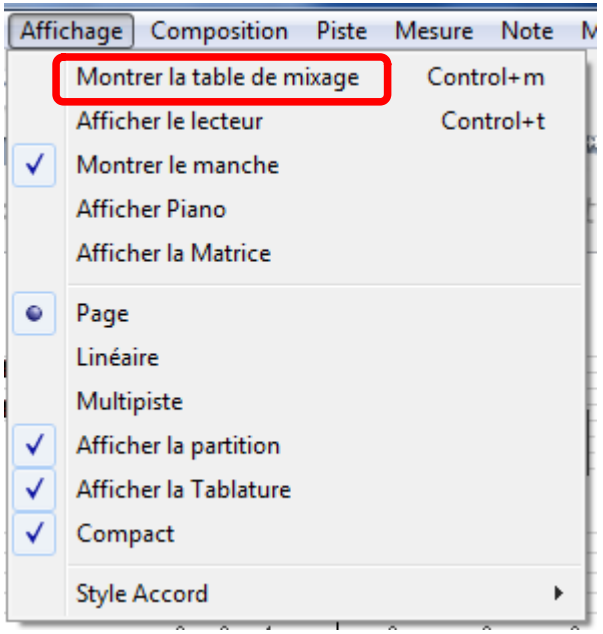
In the event of difficulties in detecting the note played, you can play on certain settings.

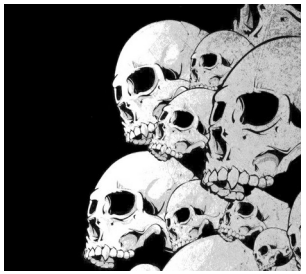
The detection of the accuracy of the note is carried out via 3 means:
- Red needle
- The blue marker on the range
- the frequency of the note (but there, you have to know it)



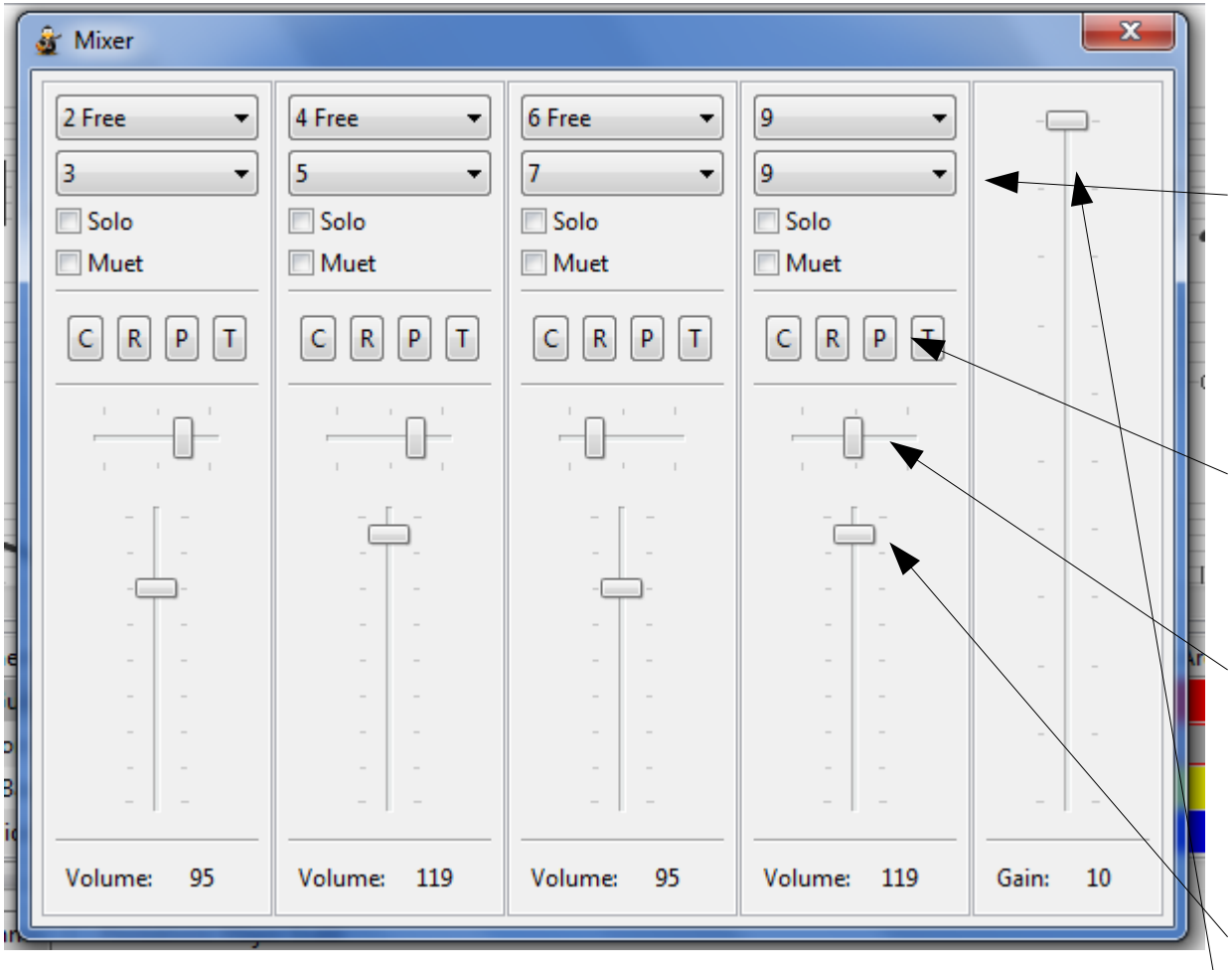
The mixer 1/2

To display the mixer: display → Show the mixer





The mixer 2/2



Solo: We only play this track
Mute: we make this track silent

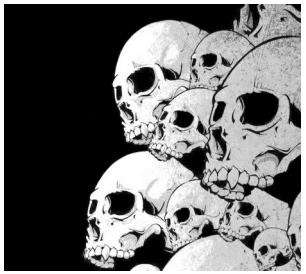
Midi channel

The effects associated with this track

C: chorus
A: Réverbération
P: phaser
T: Trémolo

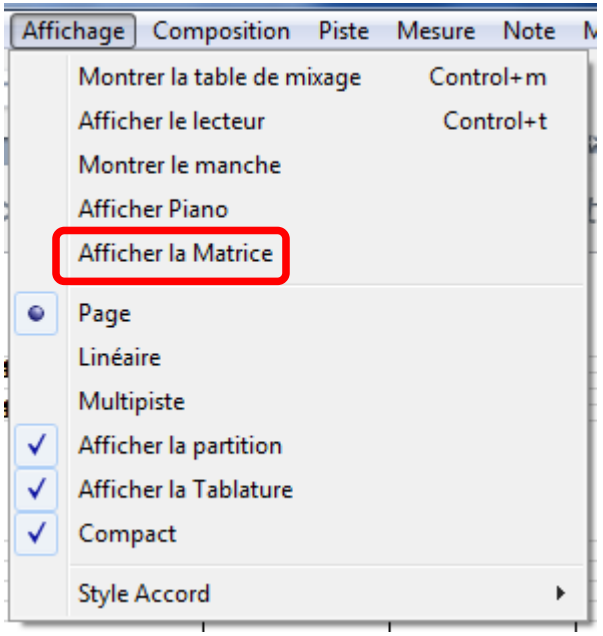
Balance:
Center button - Sound in the center. Right button - sound to the right
Button on the left - sound on the left

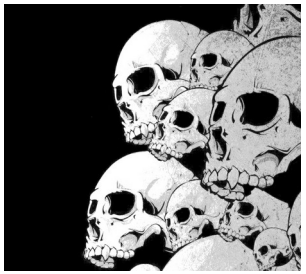
Track volume



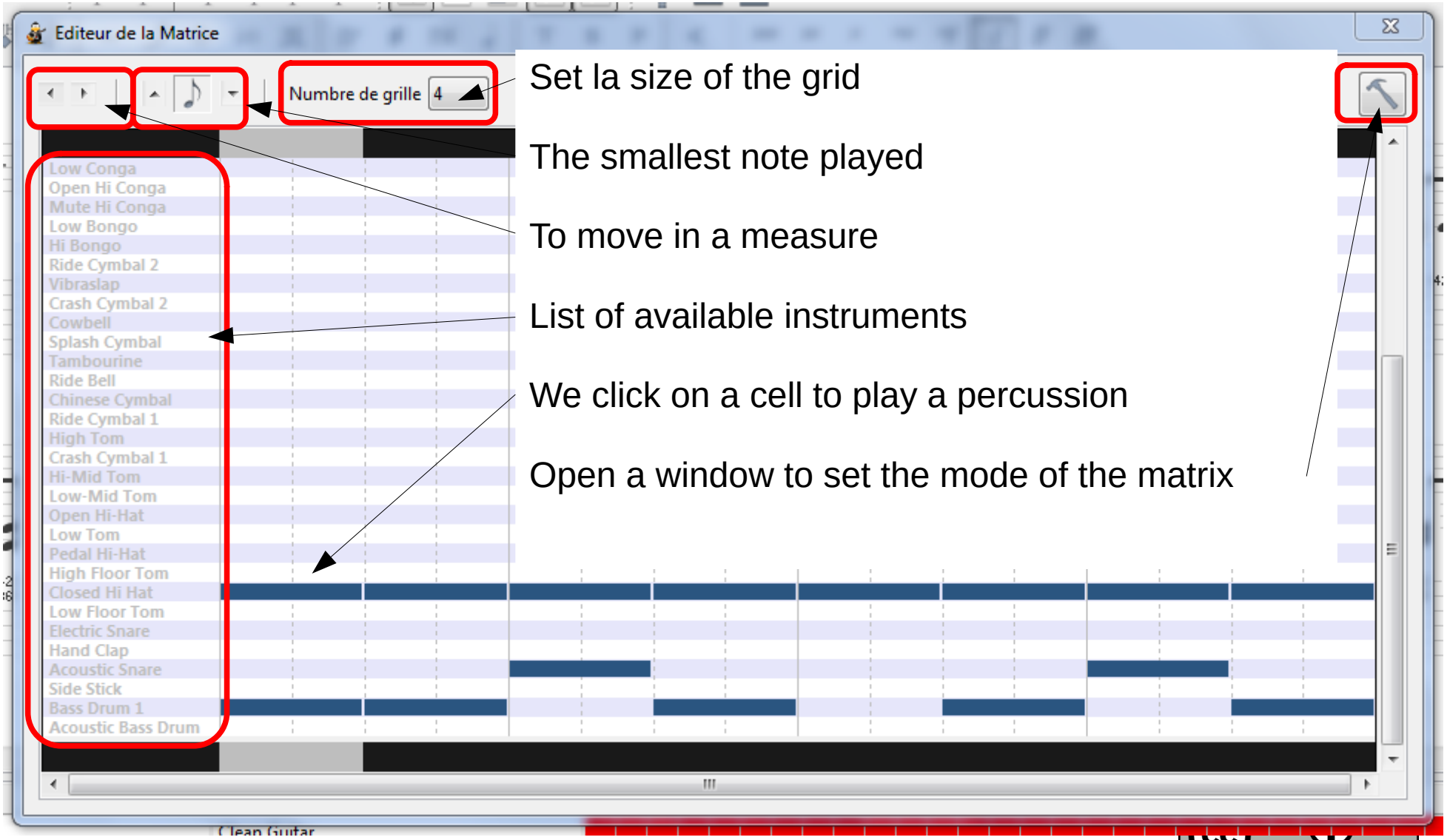
The percussion matrix 1/2

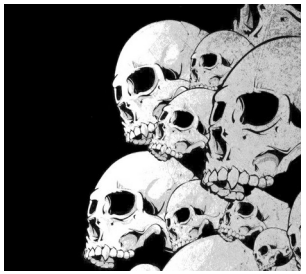
To display the mixer: display → Show the matrix





The percussion matrix 2/2



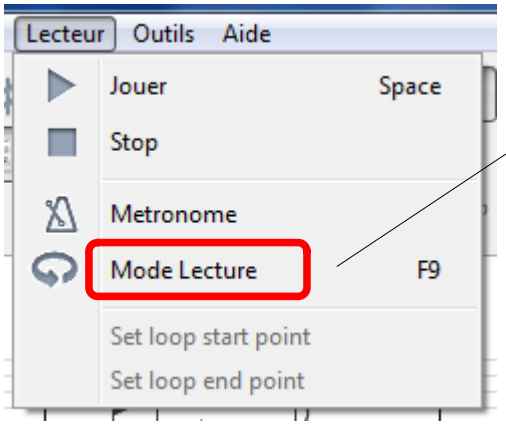


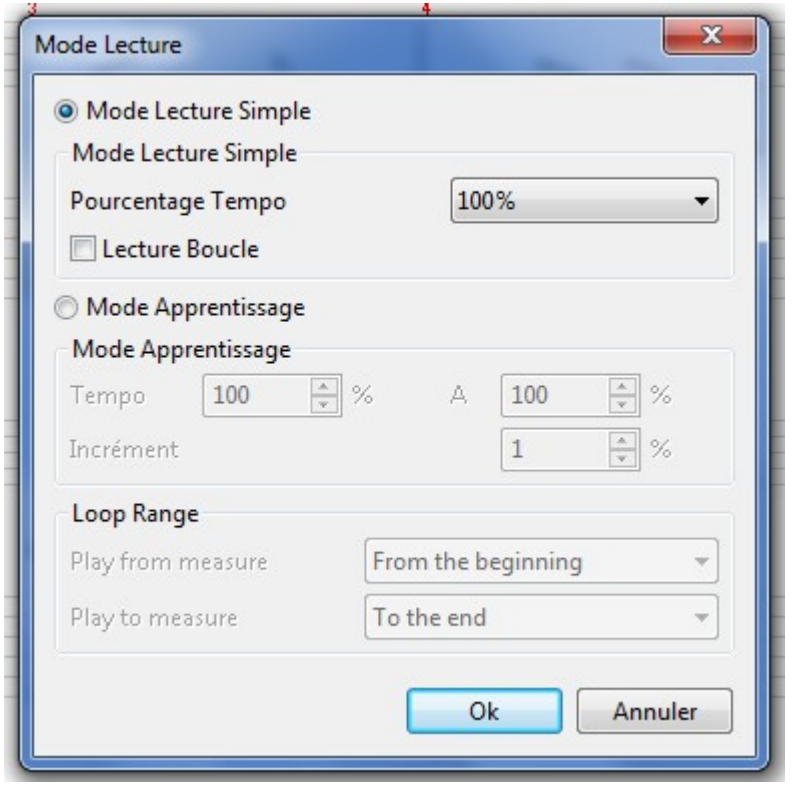
Learning mode

To learn a song, there is an interesting feature: reading mode
This mode allows you to configure a loop reading (or not) with an increase in progressive speed loop after loop.

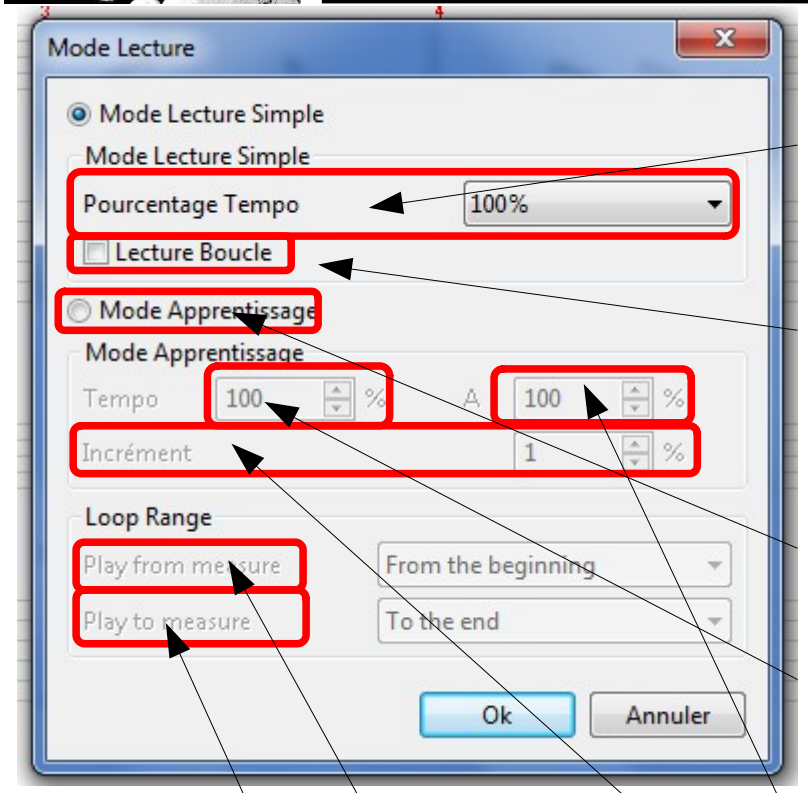
To configure this mode:

Player → Reading mode





Learning mode



Loop Range:
Play from Measure: Start measurement - Start -of -the -loop measurement number.
Play to Messure: end measurement - end -of -loop measurement number.

Percentage tempo: allows you to play the piece to a fraction of the tempo (at 50% for example). It allows you to affect the entire piece, even the tempo variations.

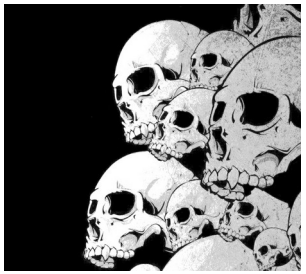
Loop reading: allows you to configure a reading loop (which is defined by "Loop Range" below).

Learning mode:

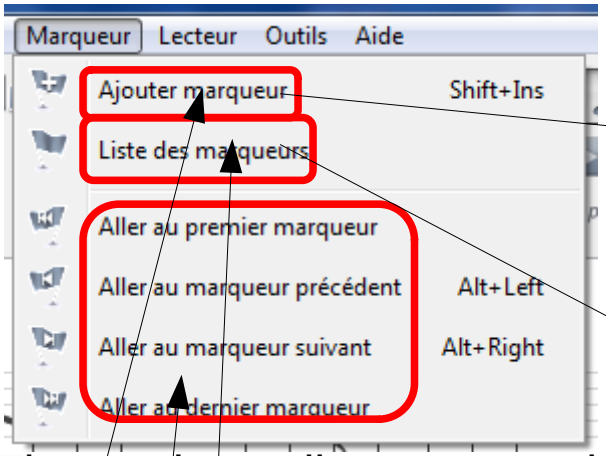
The first block% allows you to define the starting tempo (20% for example).

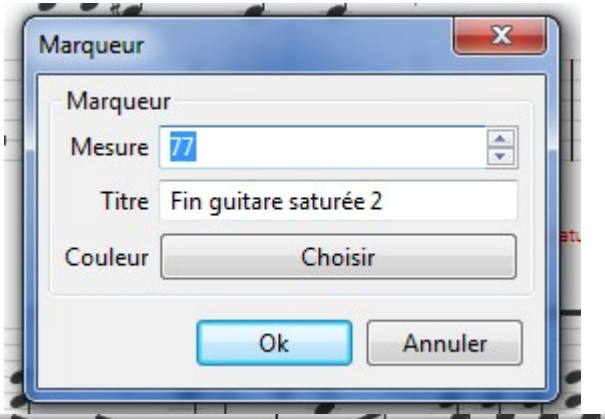
The second block% allows you to define the end tempo (80% for example).

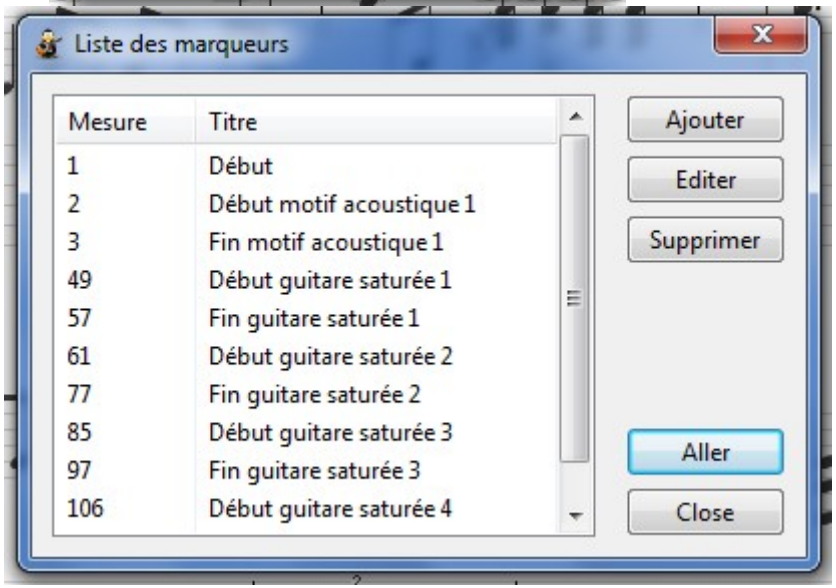
Increment: how many percent of acceleration loop after loop.



Markers





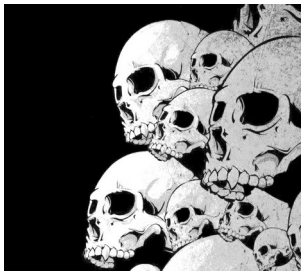


The markers allow you to add labels to a piece.

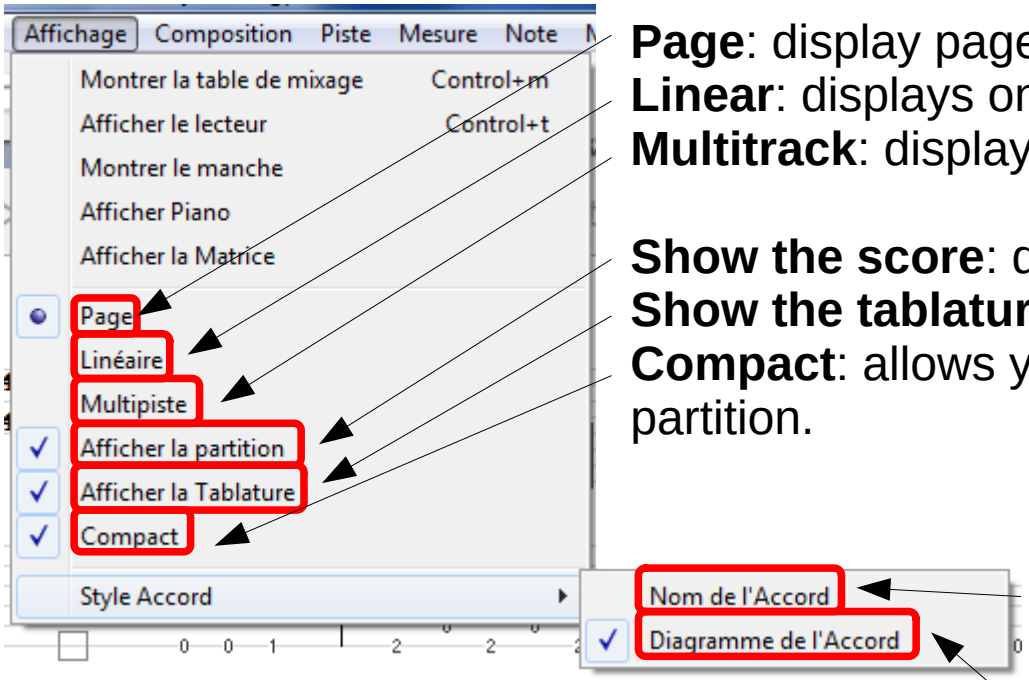
Add marker: add a marker - we choose a measure then a title for the marker and finally a color for the marker.

Lists of markers: displays all the markers of the song.

The last block allows you to move in the song via the markers



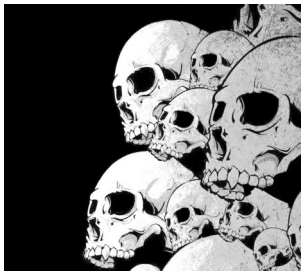
The display of a partition



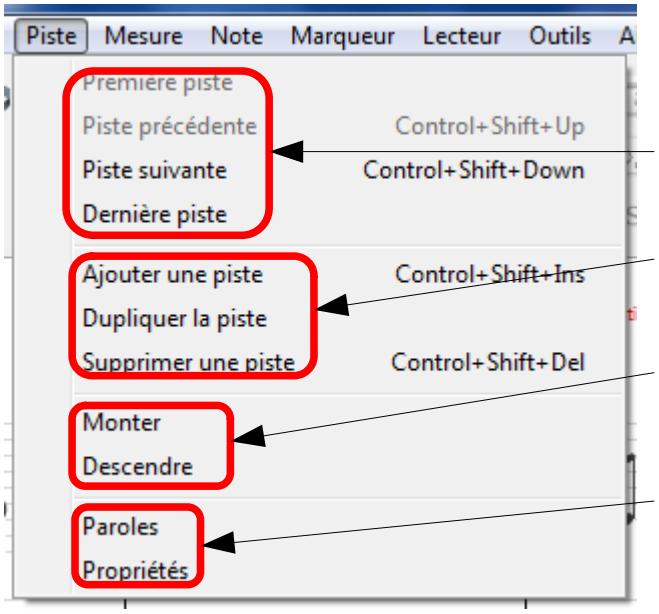
Page: display page by partition page
Linear: displays on a continuous strip and not by page
Multitrack: displays all tracks under each other

Show the score: displays or not the part of the partition
Show the tablature: display or not the tablature
Compact: allows you to gain space when displaying the partition.

Chord name: displays or not the name of the chord
Chord diagram: displays or not the chord diagram



Track management



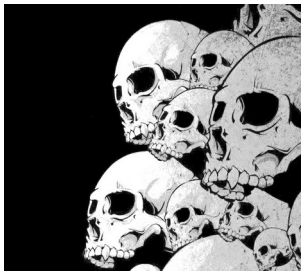
This menu allows you to manage the tracks.

You can move.

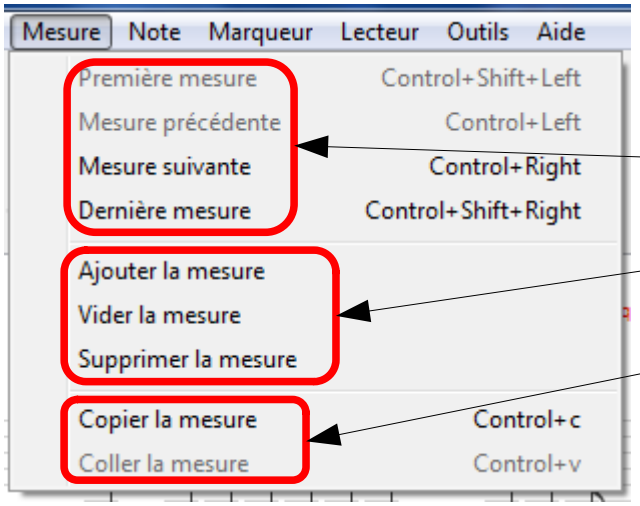
You can add / duplicate / delete.

You can move tracks.

We can manage properties as well as words associated with certain tracks.



Measures management

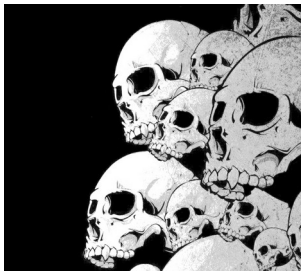


This menu allows you to manage the measurements.

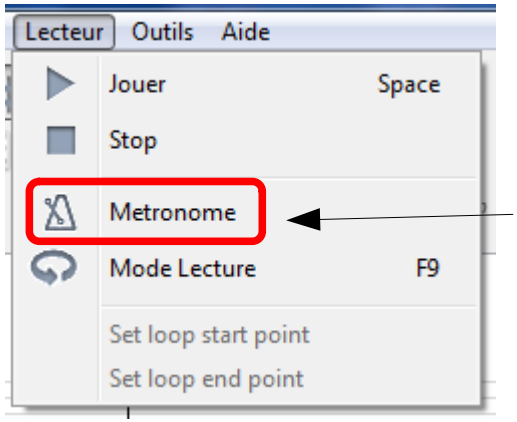
You can move.

You can add / empty / delete.

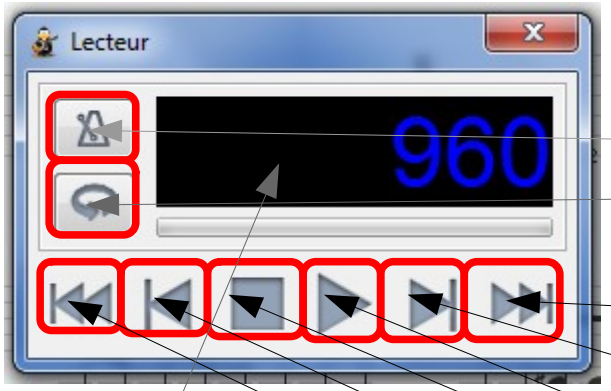
You can copy / paste.



The metronome and the player



To activate / deactivate the metronome, click on this menu



The player allows you to play and move in the partition

We can activate / deactivate the metronome

We can manage the reading mode

Go to the end of the song

Go ahead

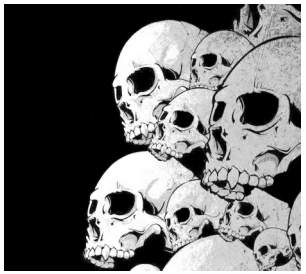
Play button

Stop button

Go back

Go to the start of the song

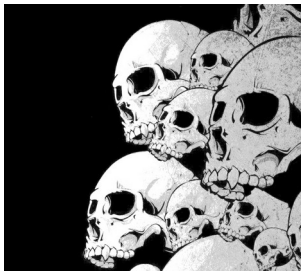
Position in the song in "MIDI bar"



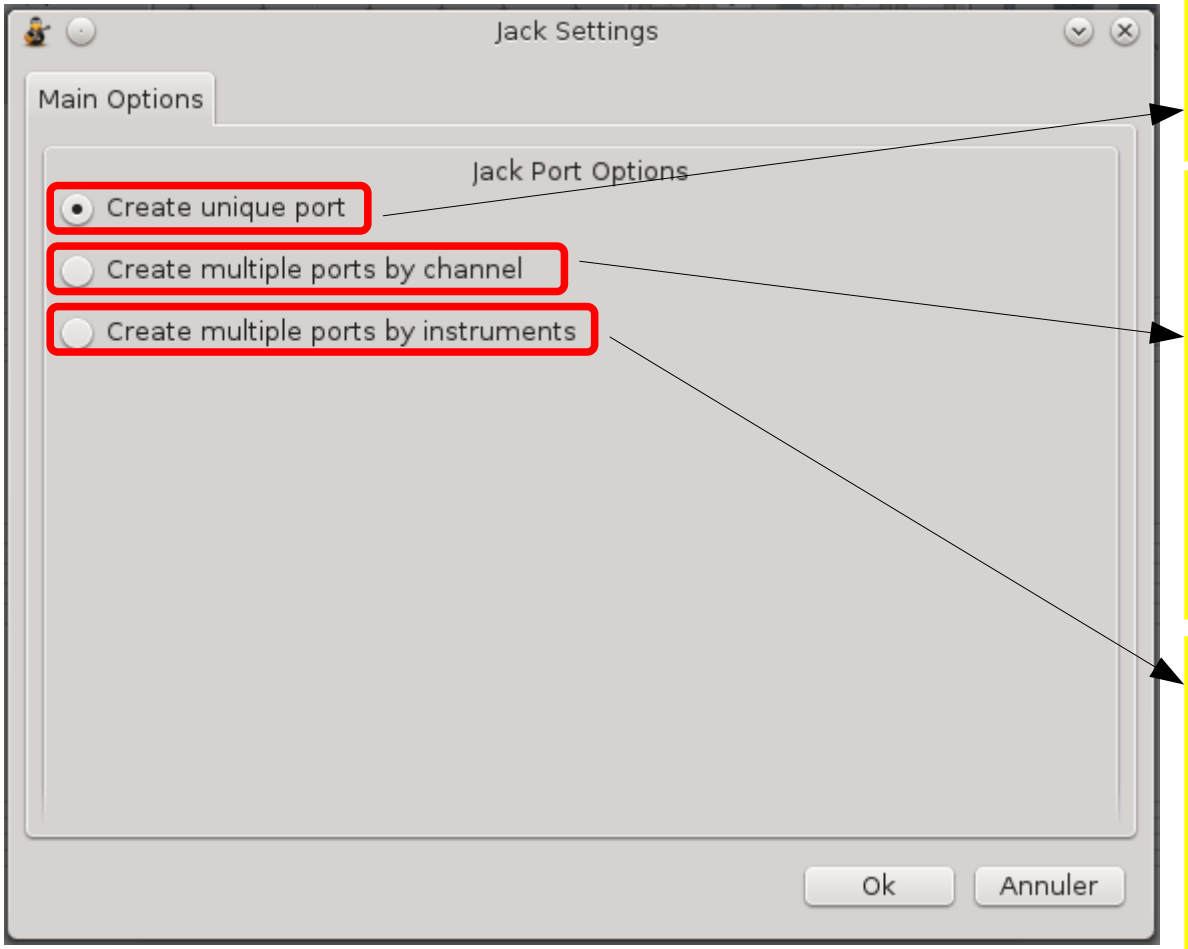
Write a partition

As for writing a score, it is interesting to read this tutorial in French:

Tutorial



Tuxguitar
Jack plugin (linux) – 1 / 12



Single Port Create

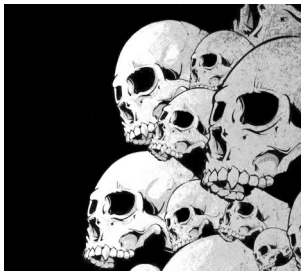
We just have a single audio output

Create Multiple Ports by Channel

We have an output by MIDI channel.
A TuxGuitar track can contain several MIDI channels.
There are 16 MIDI channels accessible to the maximum.

Create Multiple Ports by instruments

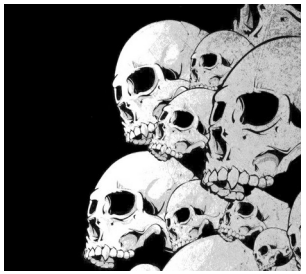
We have an output by instrument (128 instruments in all) and an output for percussion.



Tuxguitar
Jack plugin (linux) – 2 / 12

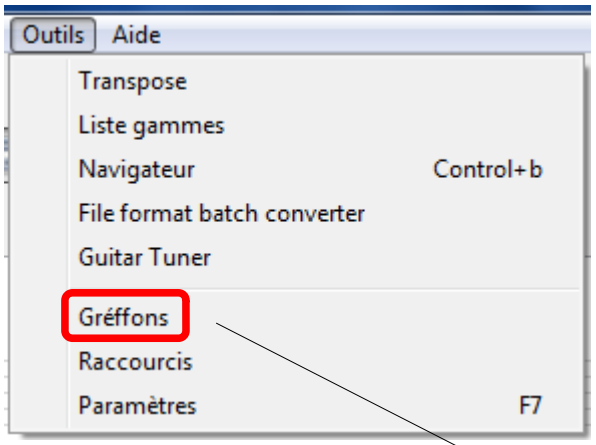
The information concerning the "standard" General MIDI is accessible at the following address: https://fr.wikipedia.org/wiki/General_Midi

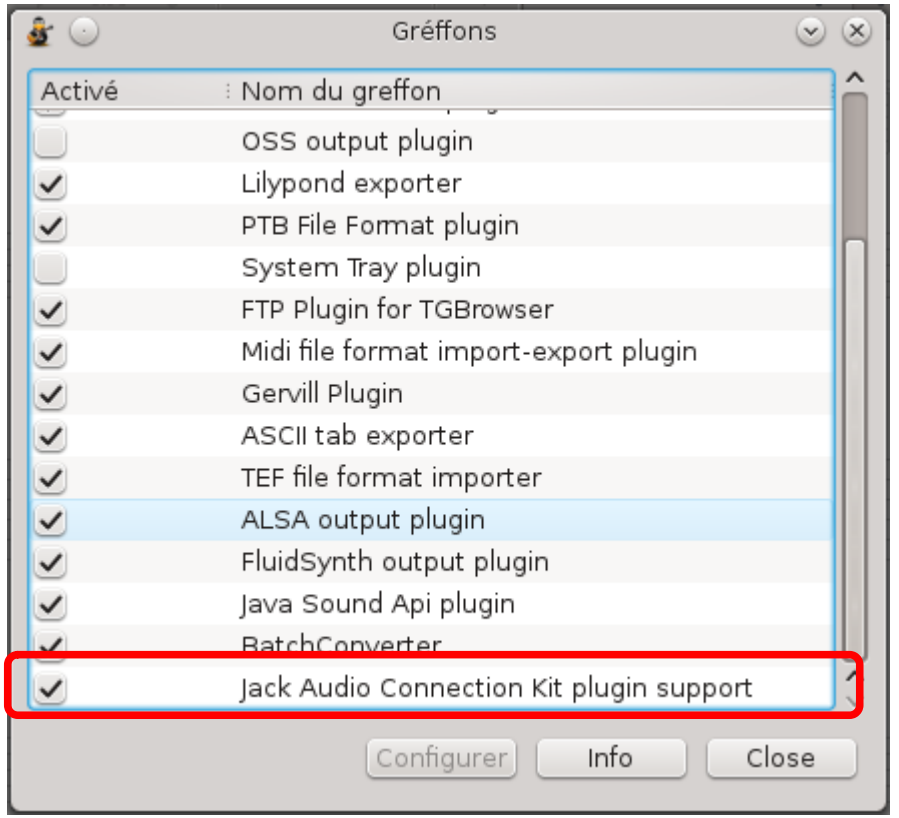
For sound rendering via the Jack plugin, we will use:
- Fluidsynth and its Qsynth graphical interface: https://qsynth.sourceforge.io/
- SF2/3 sound fonts
- Qtractor for multi-track recording: https://qtractor.org/

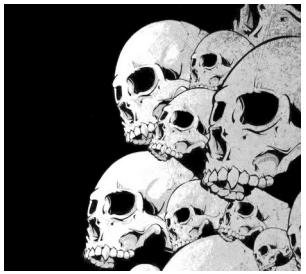


Tuxguitar
Jack plugin (linux) – 3 / 12

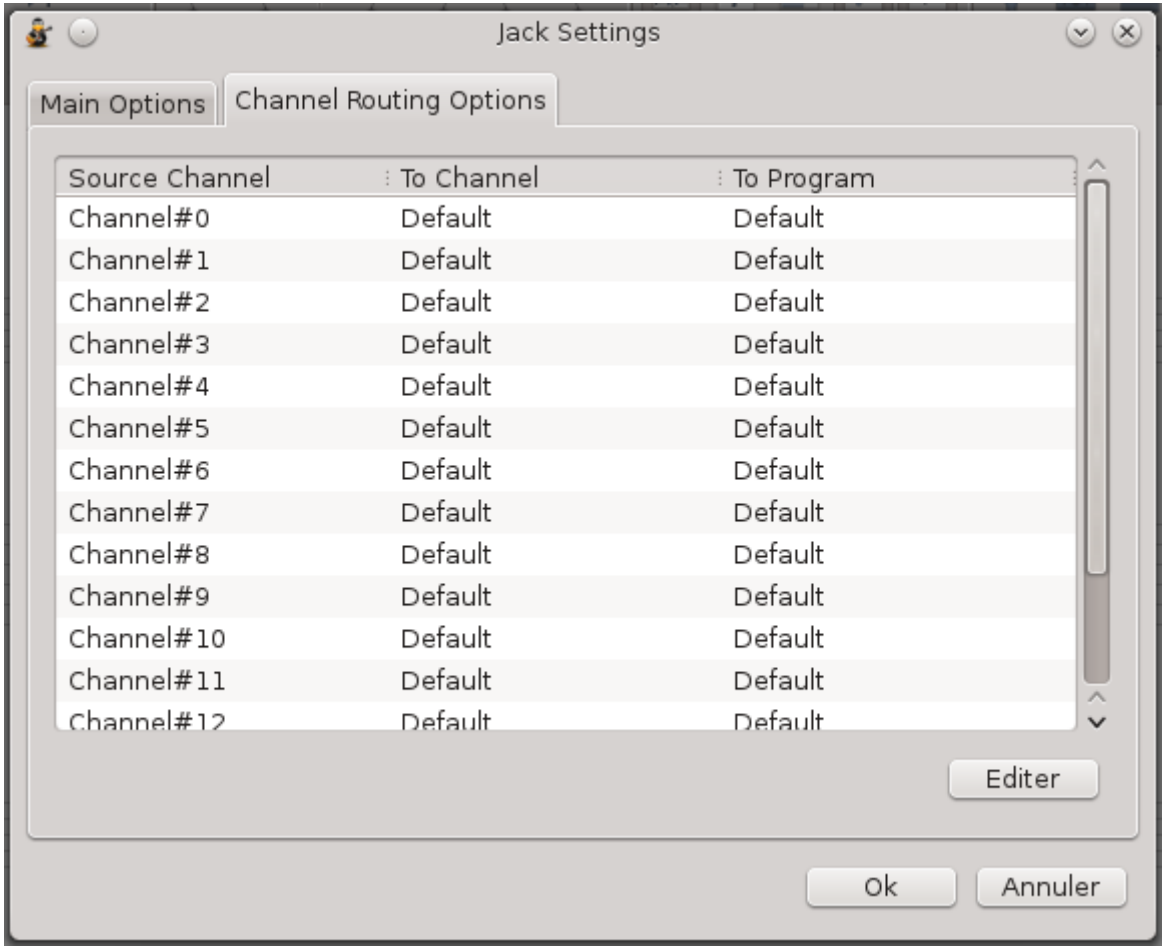
The Jack plugin is configurable via the “Tools → Plugins” menu





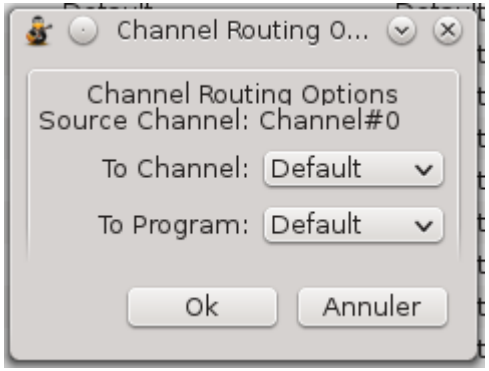


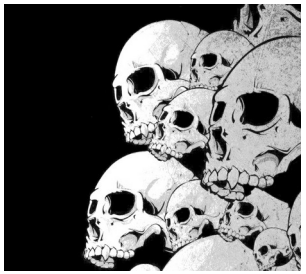
Tuxguitar
Jack plugin (linux) – 4 / 12



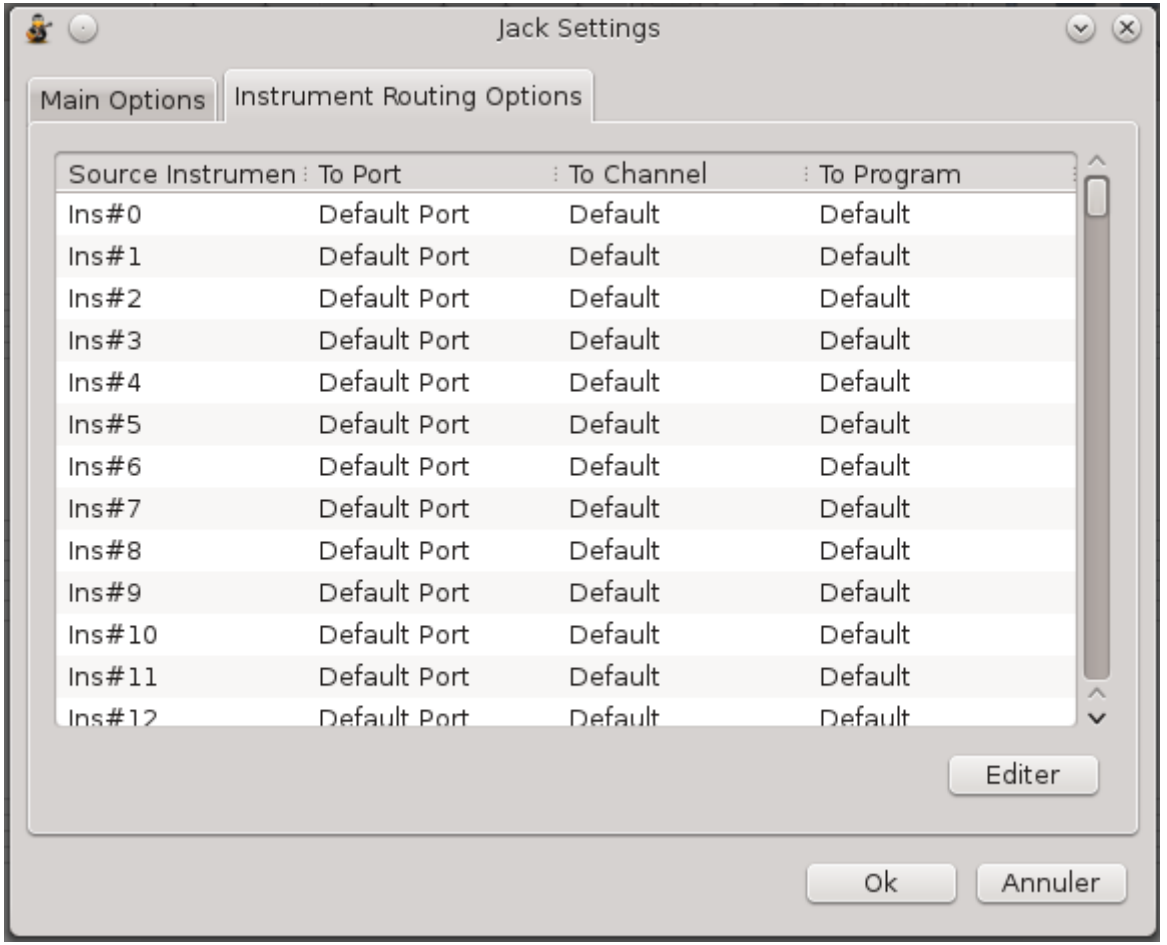
For each of the channels, you can select a separate output.
To do this, simply select a channel and click on "Edit".

Then the next window opens and allows you to adjust MIDI settings to which we will not touch.



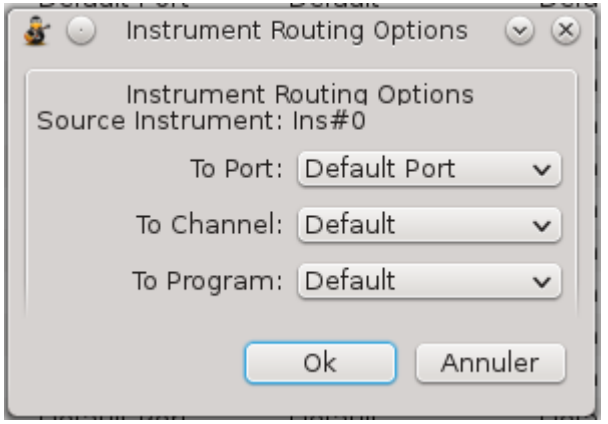


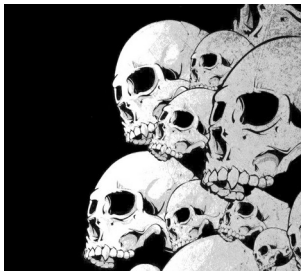
Tuxguitar
Jack plugin (linux) – 5 / 12



For each instruments, we can select a separate output.
To do this, simply select an instrument and click on "Edit".

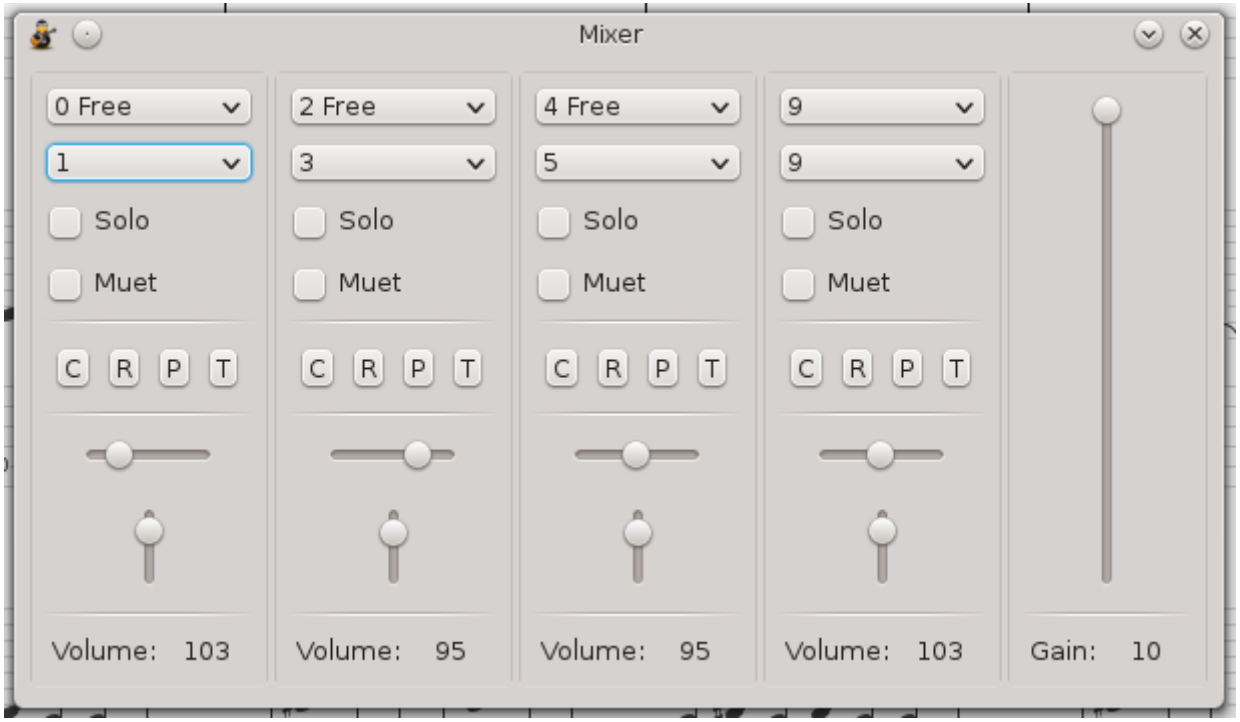
Then the next window opens and you must select a separate output in the "to port" area.

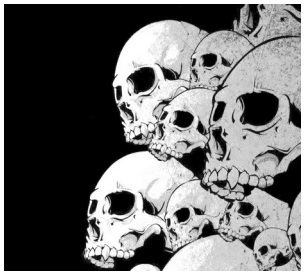




Tuxguitar
Jack plugin (linux) – 6 / 12

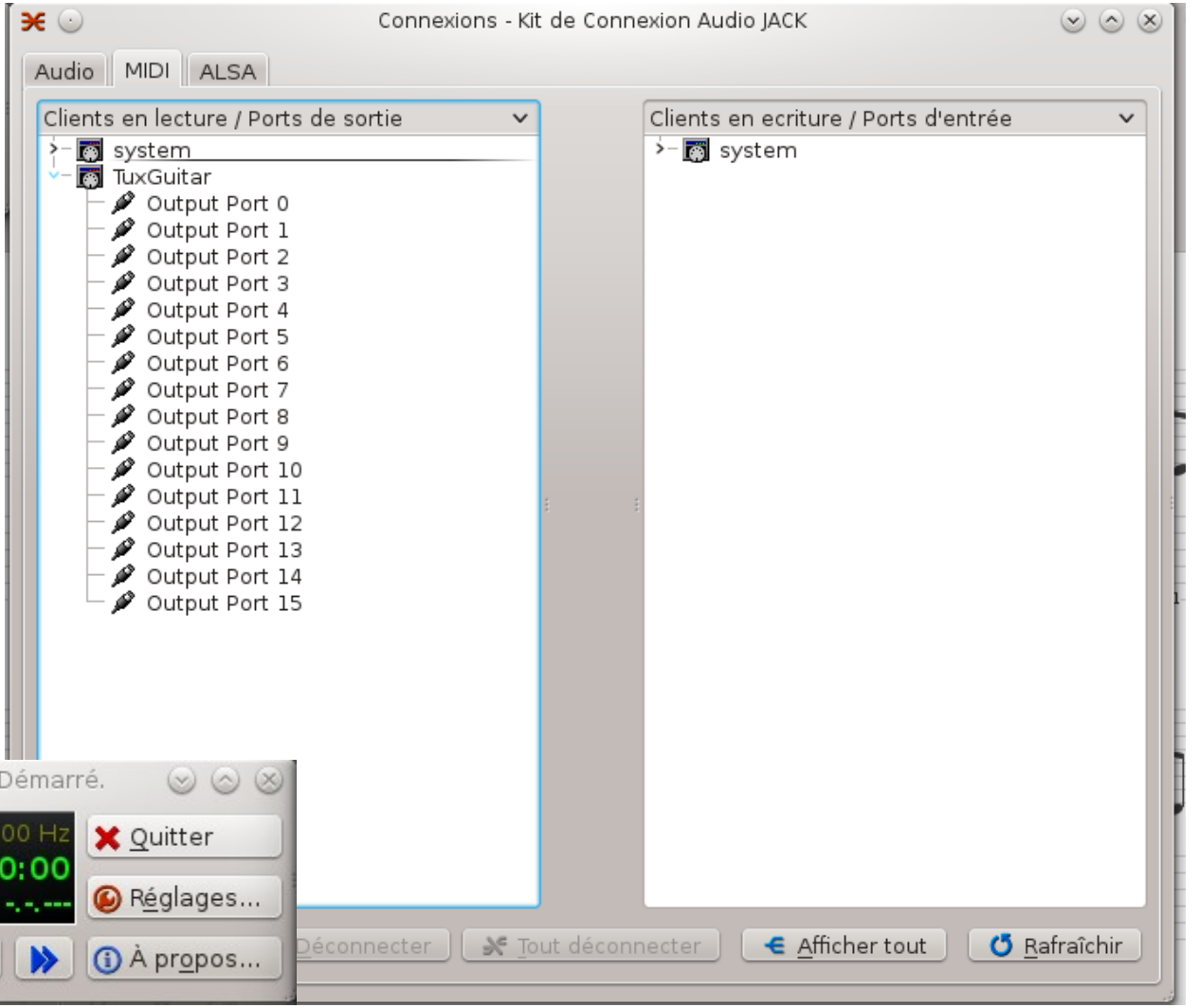
We will use the “Create Multiple Ports by Channel” option.
To find out the track number used by the song, we display the mixer.
For this song, the MIDI channels used are 0, 2, 4 and 9.
The first track actually uses channels 0 and 1: it is a guitar that uses "muted" sounds that uses a different MIDI channel.
It's the same with track 2 (+3) and 4 (+5). Track 9 is reserved for percussion.

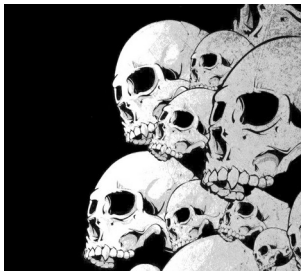




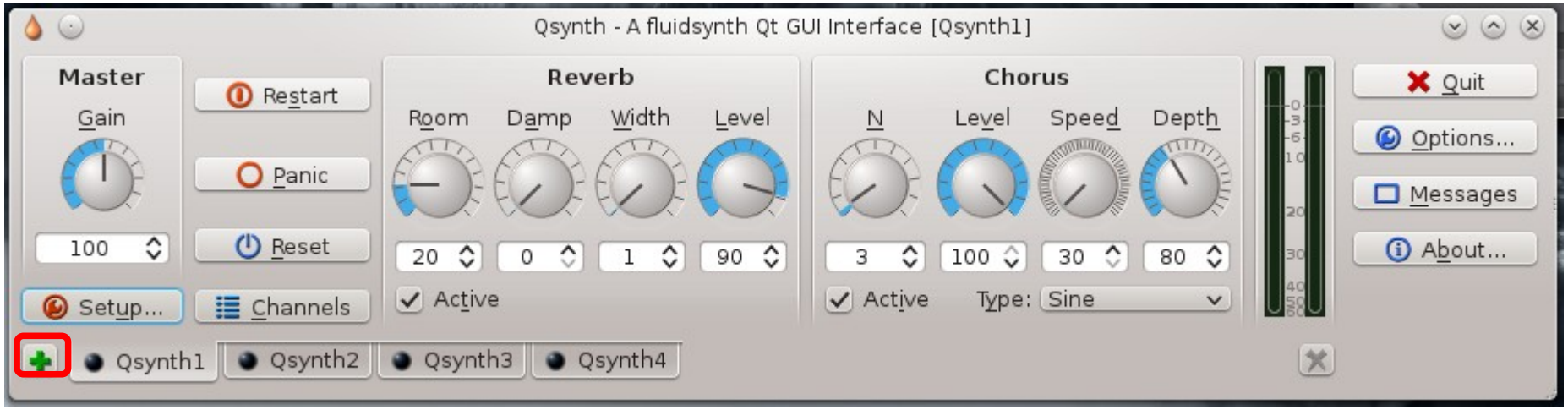
Tuxguitar
Jack plugin (linux) – 7 / 12

We start Jack then TuxGuitar by selecting the Jack MIDI jack output.
When we click on "Connect" + MIDI, we see that TuxGuitar comes out with 16 output connectors.

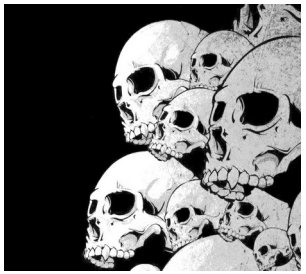




Tuxguitar
Jack plugin (linux) – 8 / 12



We are now launching "Qsynth".
We click 3 times on + to create 4 separate MIDI audio outputs.
For each tabs, we click on "Options" and we select the Jack output.
For each tabs, we click on "Options" and we select a SF2 sound make.



Tuxguitar
Jack plugin (linux) – 9 / 12

We connect now:
- Output Port 0
- Output Port 1

To QSynth1 → This will correspond to the instrument 1.

We connect now:
- Output Port 2
- Output Port 3

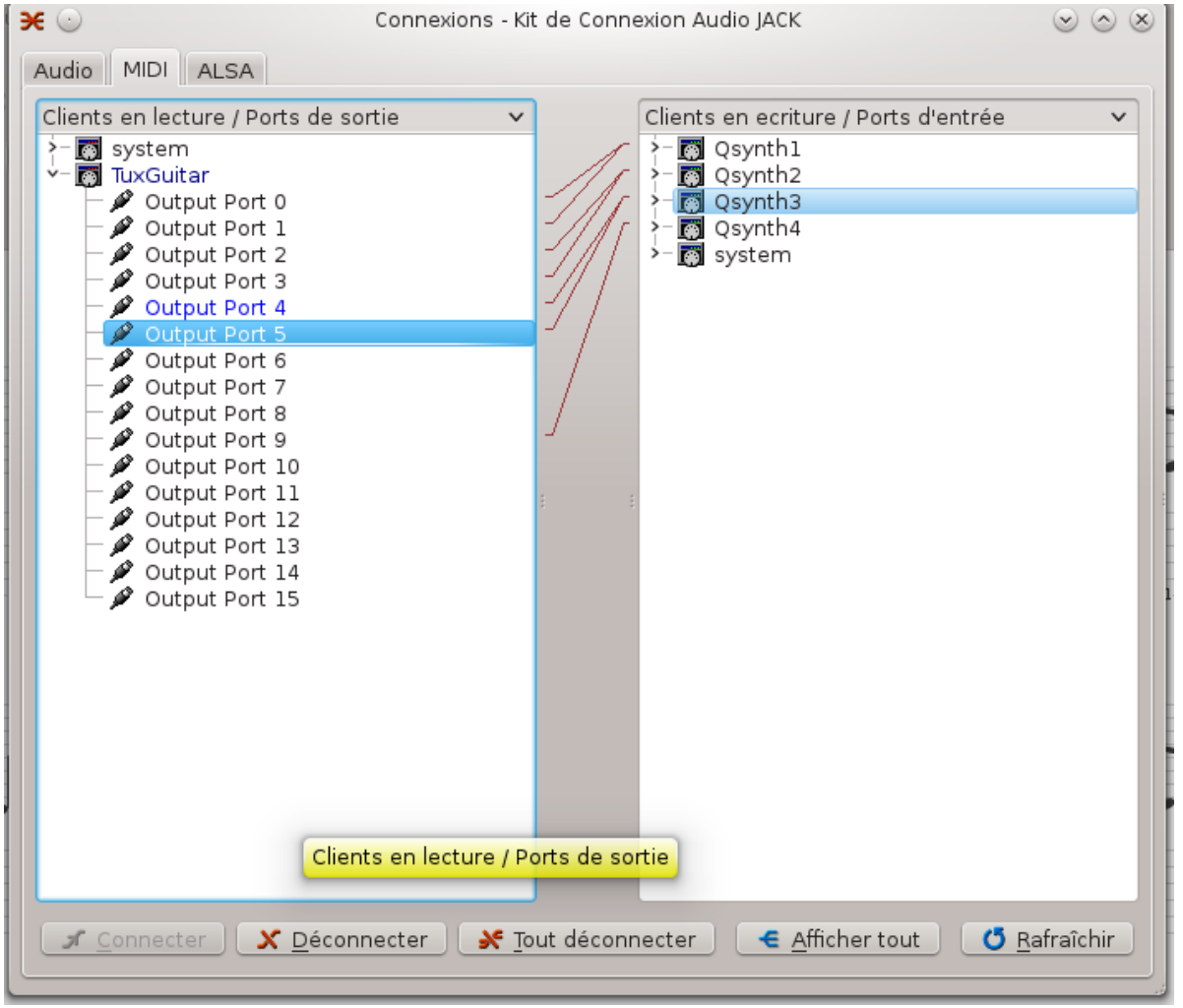
To QSynth2 → This will correspond to the instrument 2.

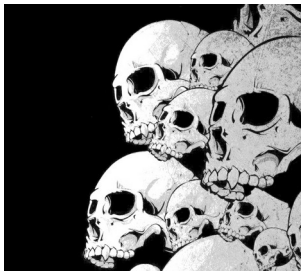
We connect now:
- Output Port 4
- Output Port 5

To QSynth3 → This will correspond to the instrument 3.

We connect now:
- Output Port 9

To QSynth4 → This will correspond to the drum.

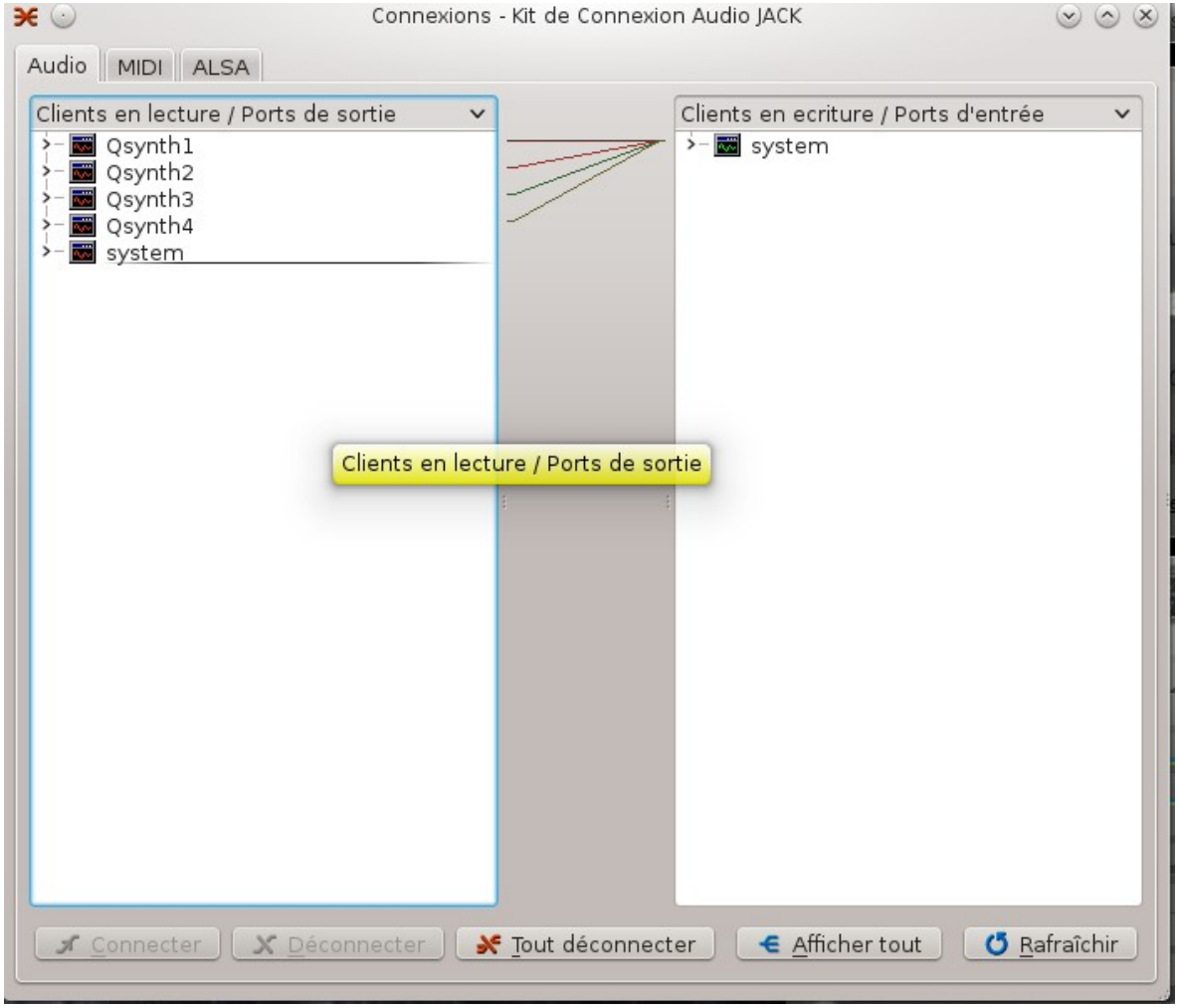


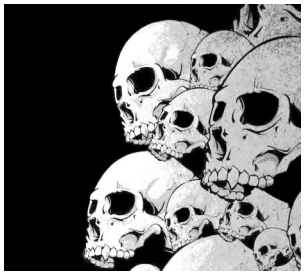


Tuxguitar
Jack plugin (linux) – 10 / 12

We now connect the audio outputs of the QSynth to the main audio output ("audio" tab).

Without this step, no sound when you start the song under TuxGuitar.





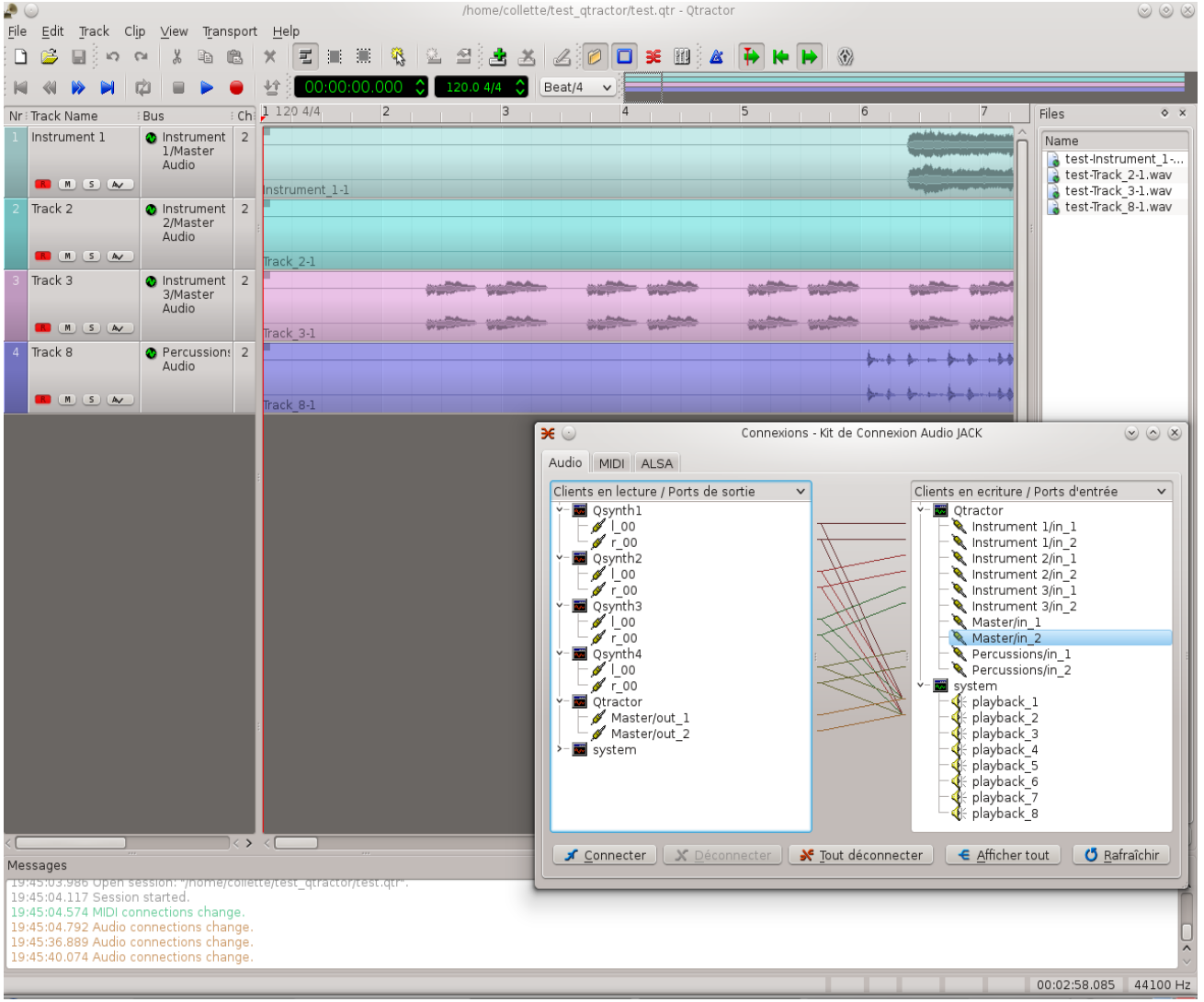
Tuxguitar
Jack plugin (linux) – 11 / 12

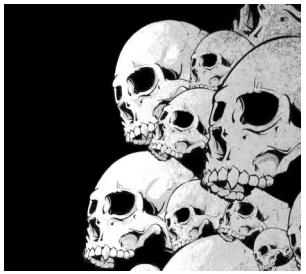
We are now launching "Qtractor".
We add 4 stereo audio tracks.
These tracks appear in Jack Audio tab.

For recording we connect each QSynth output to a Qtractor input.

The Qtractor output is then connected to the main audio output.

We also connect the QSynth outputs to the main audio output (to get along during recording).



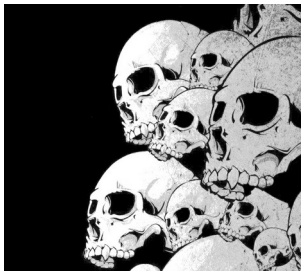


Tuxguitar
Jack plugin (linux) – 12 / 12

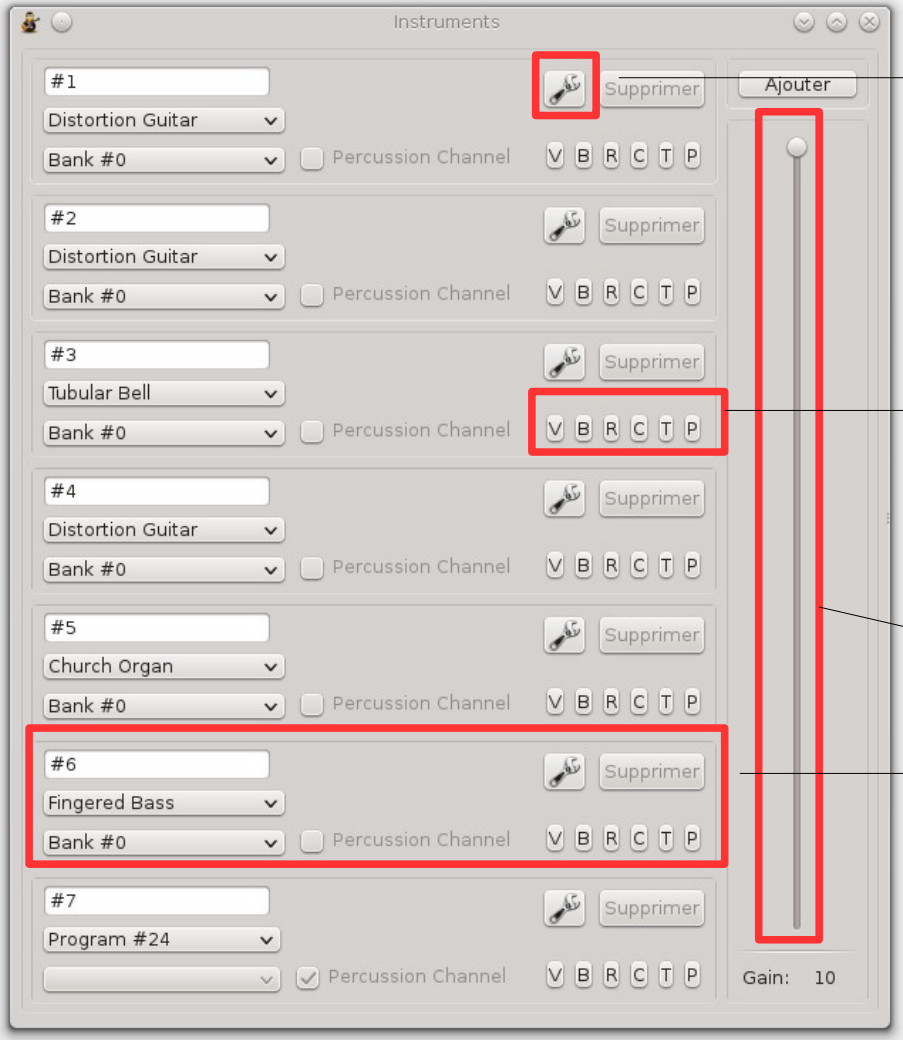
It is now possible to add an additional track to Qtractor and record all of the track that we play.
Then comes the mixing stage (the placement of the tracks in the sound space and the addition of sound processing to improve the quality of the track) then the export of these tracks to a WAV or MP3 format.

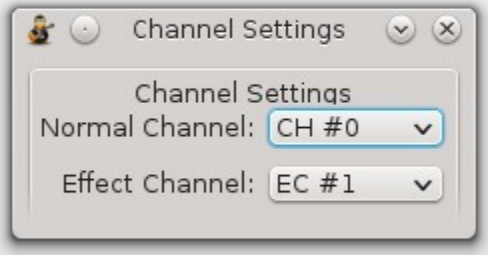
It is possible to replace the Qsynth output which takes care of making the drum part with the "Hydrogen" software. The drum rendering will then be even better.

It is also possible to play on the channels and program in the Jack plugin of TuxGuitar to assign each outing to a channel and a particular program.
In some cases, the sound make them specialize in certain sounds (guitar, bass, piano) and the guitar instrument (for example) no longer has the same position as in the standard MIDI.



TuxGuitar 1.3
Mix it

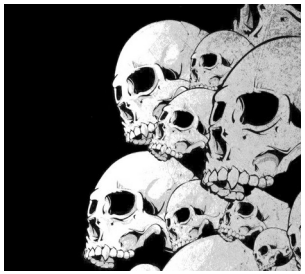




V: Volume
B: Balance
A: Reverb
C: Chorus
T: Tremolo
P: Phaser

Main Volume

Instrument Zone



TuxGuitar 1.3
The sound mode 'Jack MIDI'

Instruments

#1 Distortion Guitar Bank #0 Percussion Channel V B R C T P Supprimer Ajouter

#2 Distortion Guitar Bank #0 Percussion Channel V B R C T P Supprimer

#3 Tubular Bell Bank #0 Percussion Channel V Supprimer

#4 Distortion Guitar Bank #0 Percussion Channel V

#5 Church Organ Bank #0 Percussion Channel V

#6 Fingered Bass Bank #0 Percussion Channel V

#7 Program #24 Percussion Channel V

Channel Settings

General Midi Settings

Normal Channel: CH #0

Effect Channel: EC #1

Options

Exclusive Jack Port

Connexions - Kit de Connexion Audio JACK

Audio MIDI ALSA

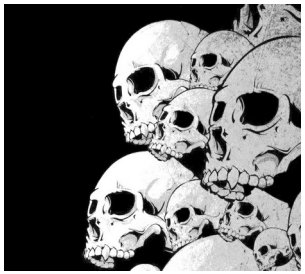
Clients en lecture / Ports de sortie

- system
  - midi_capture_1
- TuxGuitar
  - #1
  - #2
  - #3
  - #4
  - #5
  - #6
  - #7

Clients en ecriture / Ports d'entrée

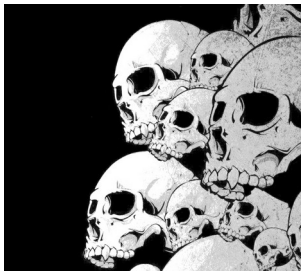
- system
  - midi_playback_1

Connecter Déconnecter Tout déconnecter Afficher tout Rafraîchir



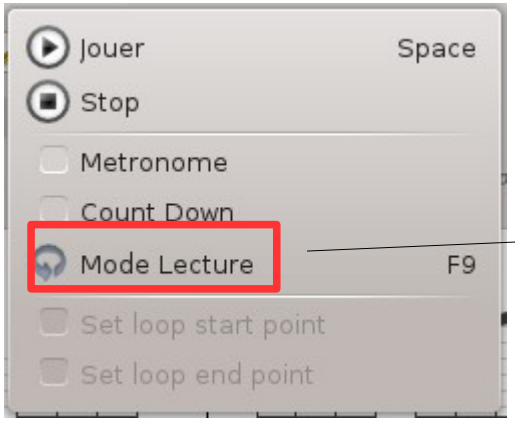
TuxGuitar 1.3
The sound mode 'Jack MIDI'

If we check 'Exclusive Jack Port', we have a unique output for the corresponding track, otherwise the track is assigned to the overall MIDI exit

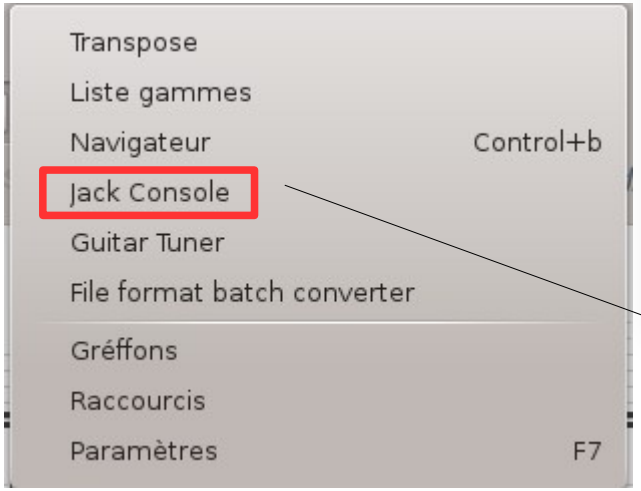


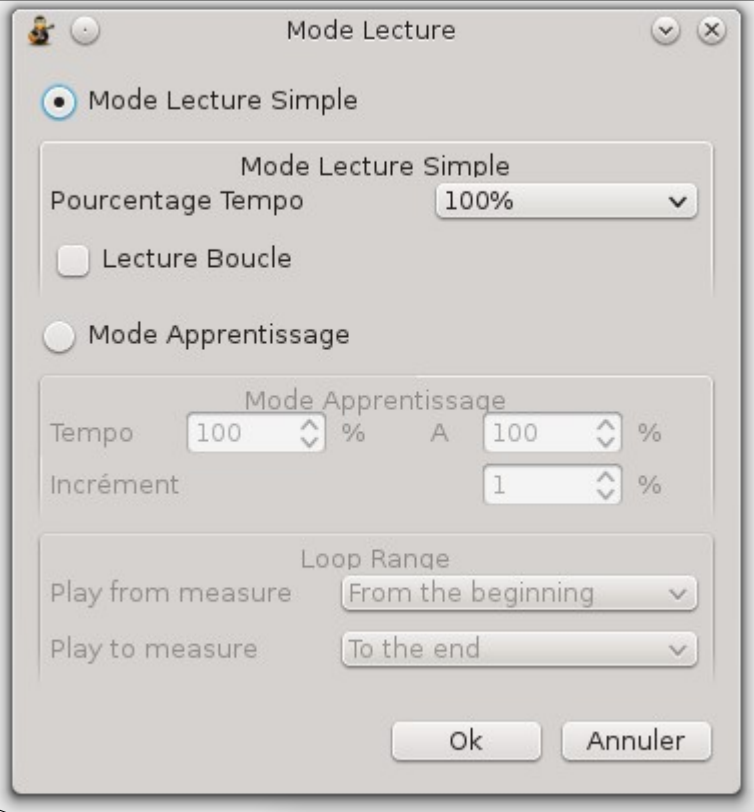
TuxGuitar 1.3
The new menus

Play



Tools



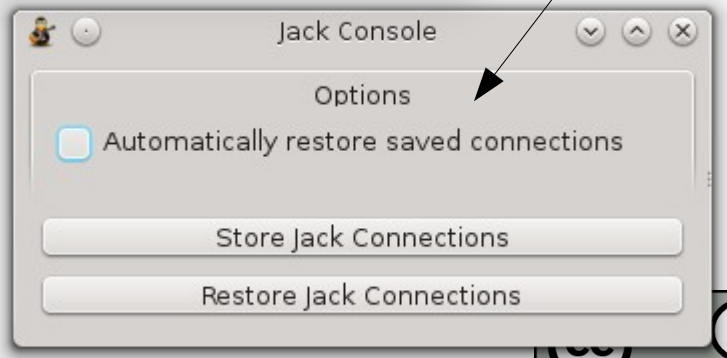


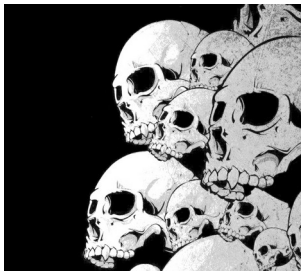
Metronome

Count before launch of the song

A reading mode panel

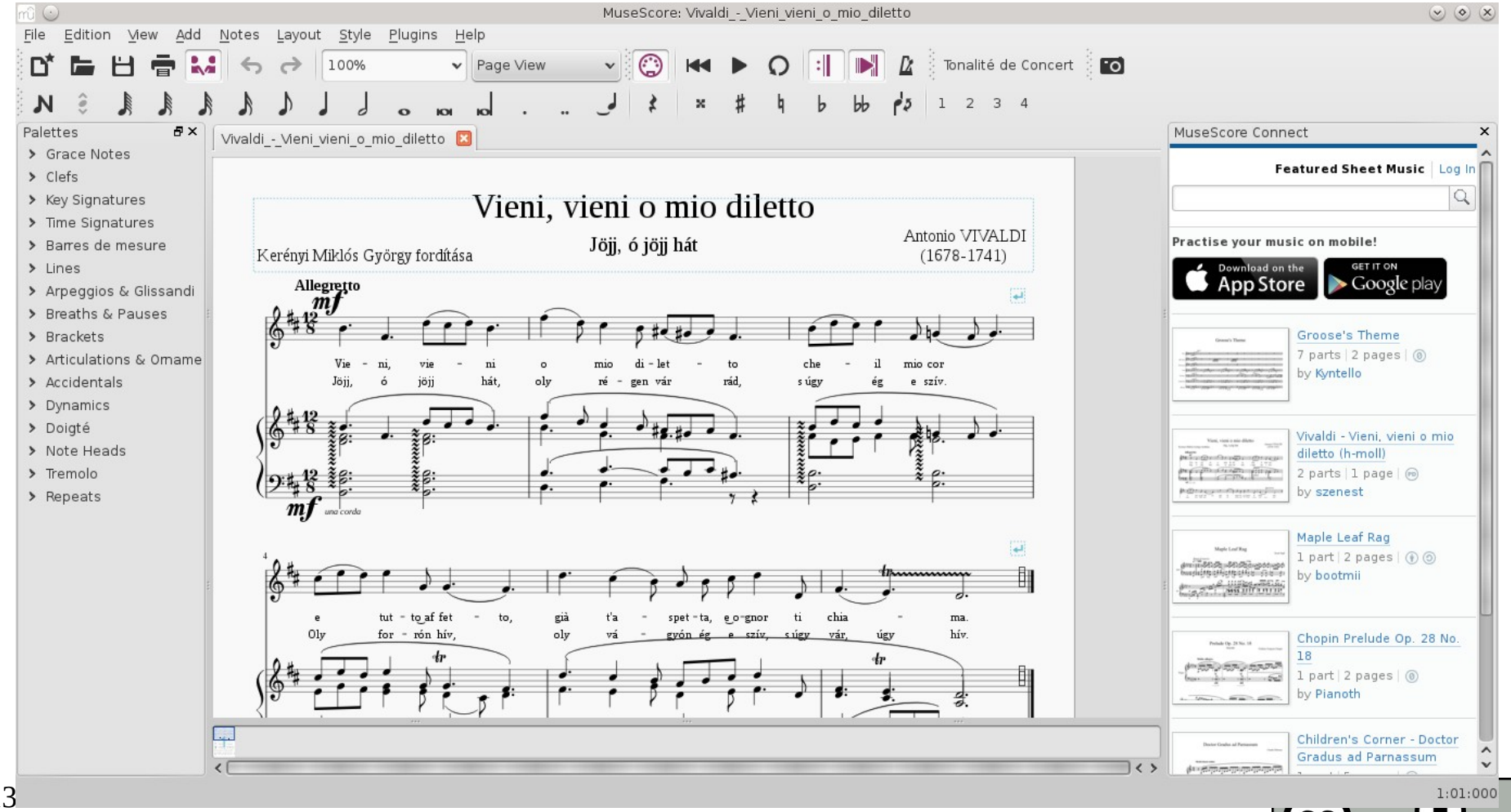
Jack connections management

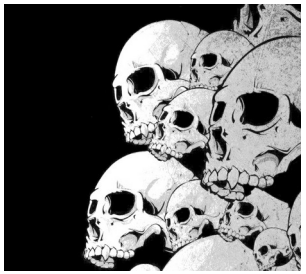




The rest ...

MuseScore: https://musecore.org/fr
Version 4 supports tablatures and GuitarPro format





The rest ...