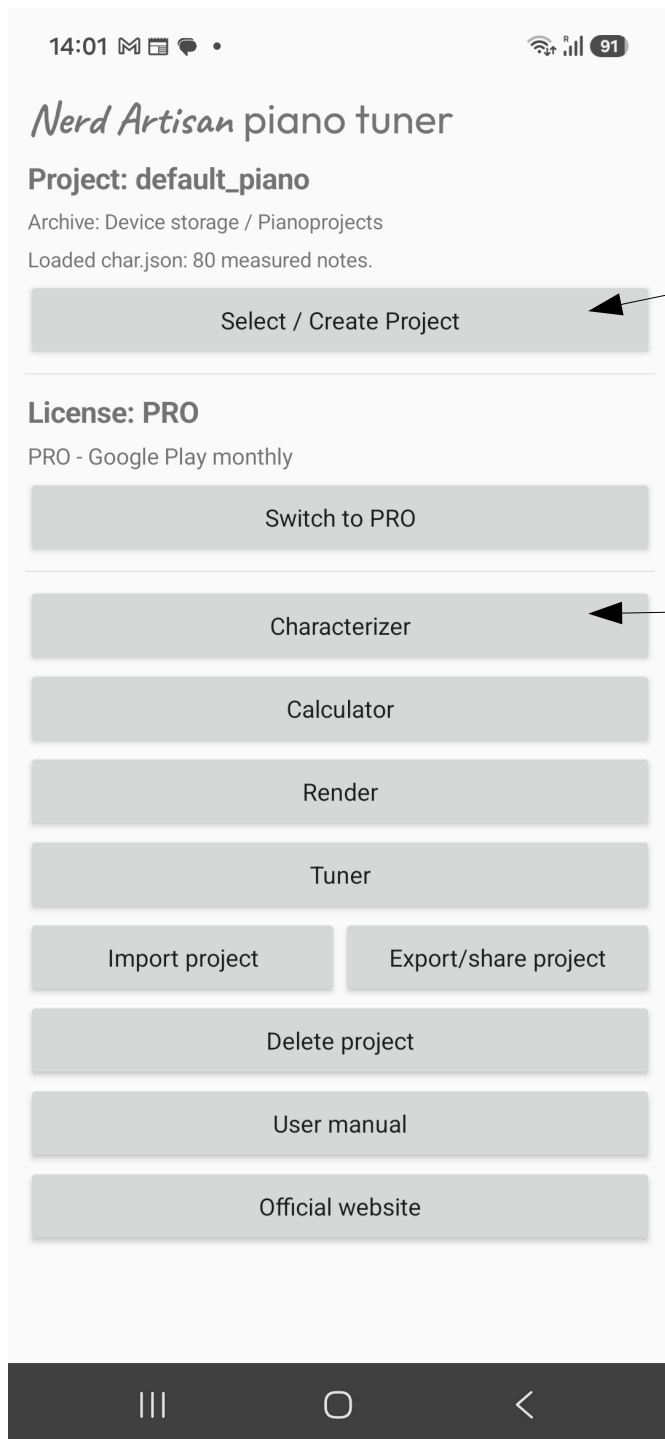


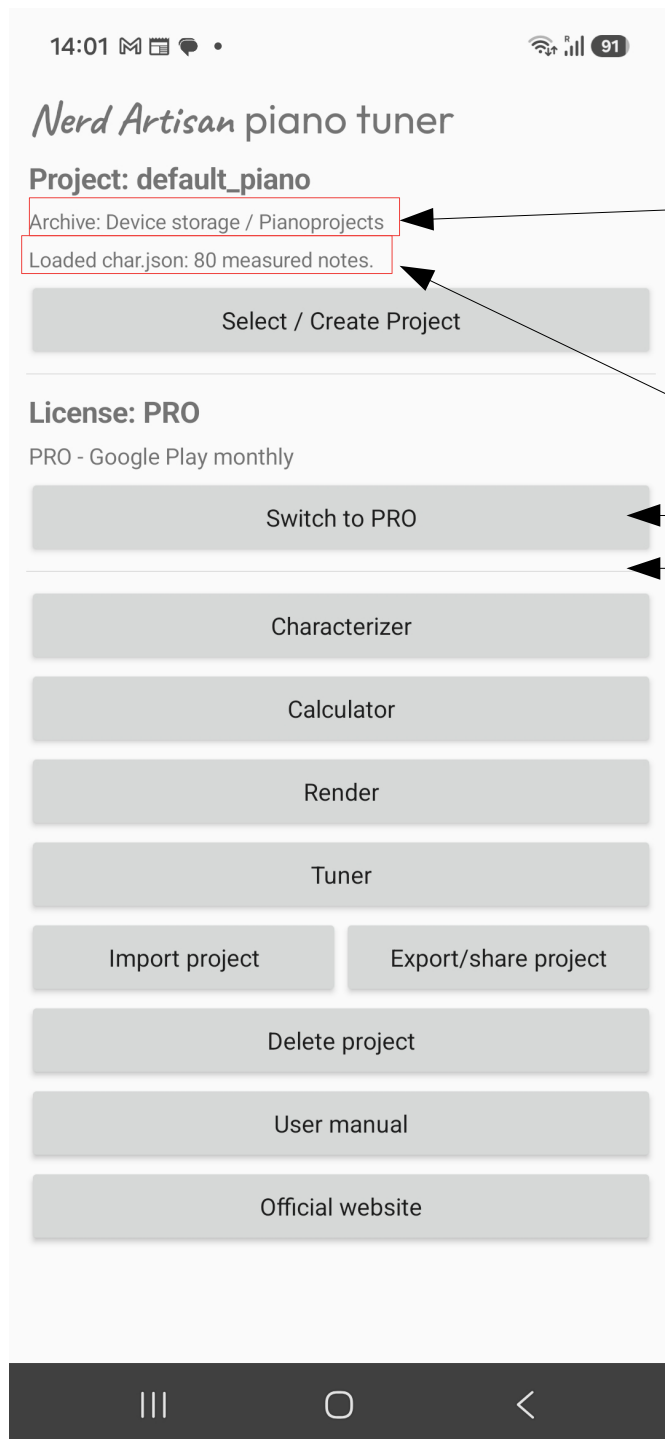


First, you need to create a project, that is simply a dedicated folder for the data relative to a specific piano.

The first time you use the app, you will be asked to create or choose an archive folder where all your project folders will be stored

The next thing you want to do is to characterize the strings of your piano by using the characterizer tool

*You may have already noticed that the graphics are very essential.
So far, I really couldn't invest time on making it look fancy, but I really put much effort in optimizing the workflow and improving the ease of use.*

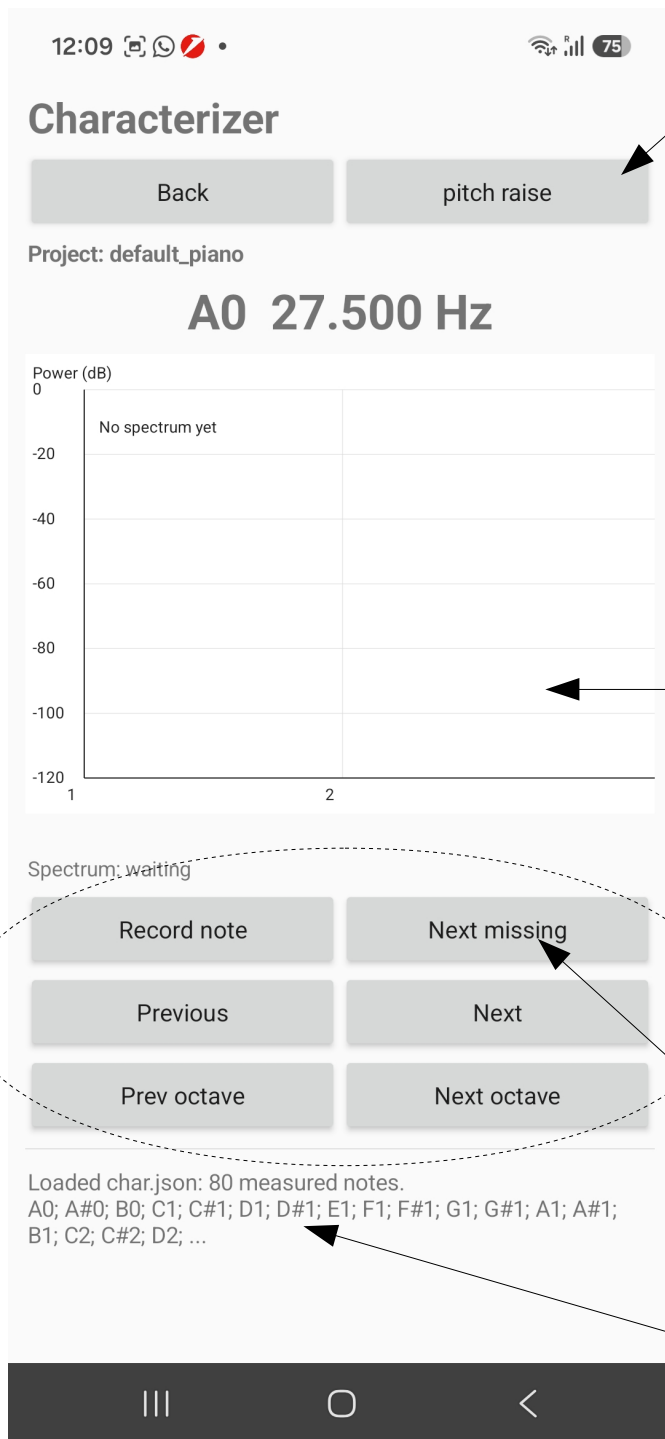


Once the archive folder has been created, it will be displayed here, so you have a reminder of its location. This way, you have an easy access also from outside the app. Do it at your own risk!

If the project is not empty, here you will read how many notes you already characterized

“Switch to PRO” is where you buy the Pro version. I suggest tu buy a [monthly subscription first](#), so you can understand if you like the app. [If a monthly subscription is active and not yet expired, the Lifetime Unlock price is reduced by the cost of one monthly subscription.](#)

If you have the free version, above the characterizer tool you will see an advertisement banner



I suggest to use the characterizer tool to record all notes from A0 to C7 for the best results.

If you want to use the Render tool, recording one or two notes in the last octave helps

Here the spectrum of your note will be visualized

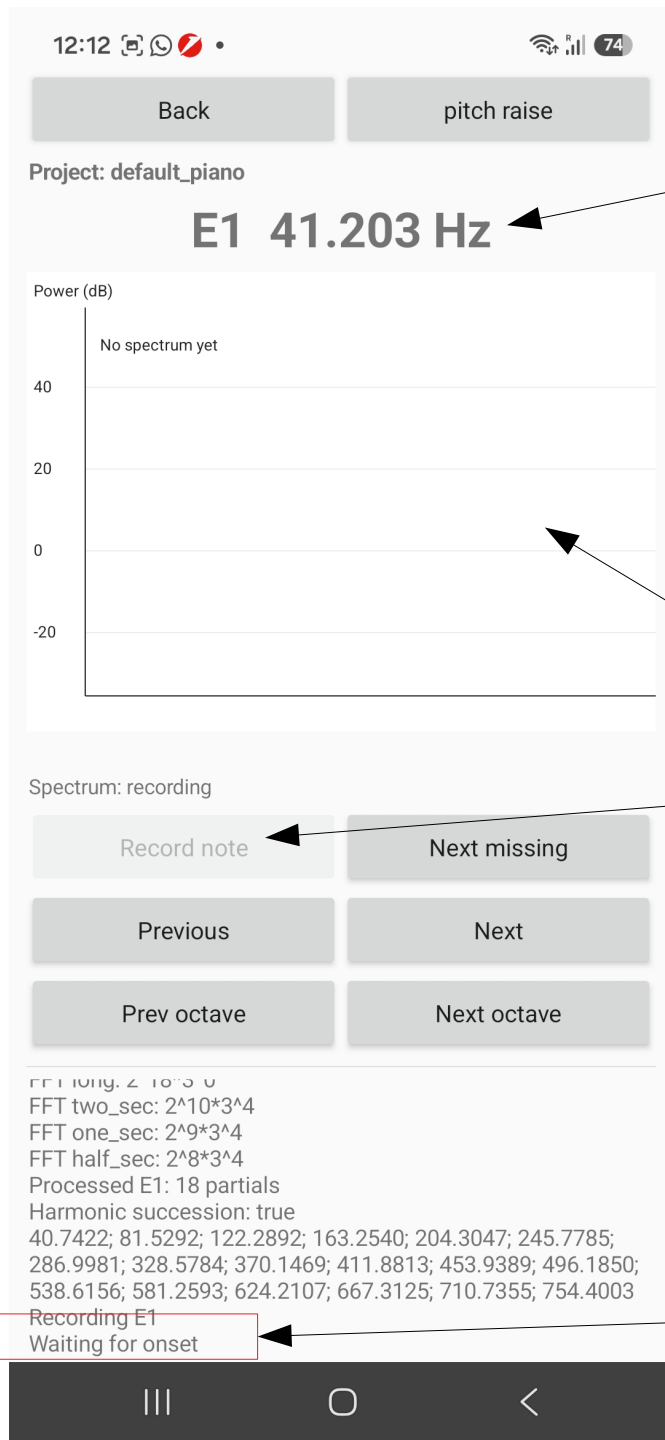
Here you can see 6 buttons. Recod note starts the recording of a note, and the other 5 are needed for navigating through the notes

Next missing is very helpful, because it goes to the next note that has not been recorded yet

Here you see if there are already some measured noters, and as you use the tool, you see more info...

Pitch raise is exactly what you think. But **if you don't know what I am talking about, don't use it!**

There will be a dedicated user guide to pitch raise functions.



Now let's suppose that you are measuring E1. The frequency you read here is the theoretical frequency

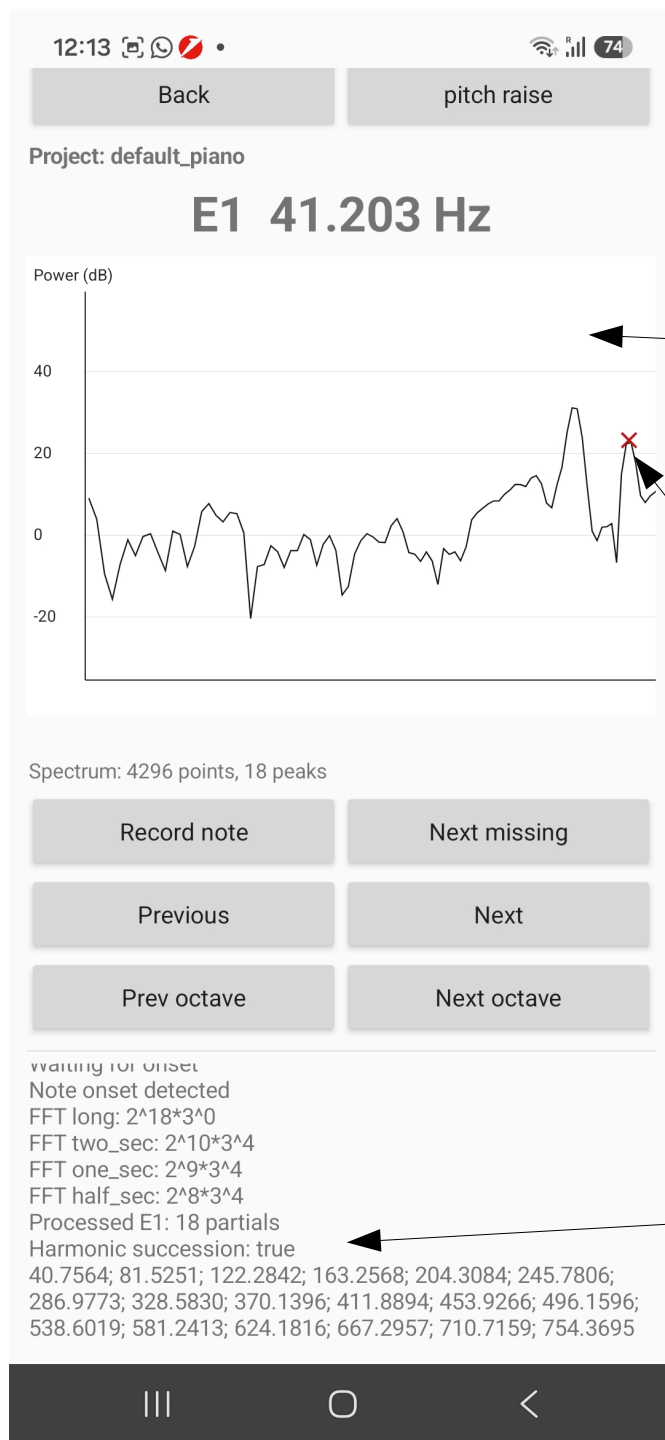
NOTICE that the tool works properly only if one string is playing at once. Therefore, you need to use the mutes properly in order to let sound only one string per key.

Once you press Record note, the key is disabled until you actually record a note or a certain amount of time has passed.

In case there was an old spectrum displayed, pressing Record note will delete it from the screen.

Don't worry, you'll see how does a spectrum look like in the next page

Here you see "waiting for onset, until the tool actually hears a piano note"



When you play the string, the tool starts recording.

Let the string play until the spectrum appears!

When the note is recorded, not only you see the spectrum, but “Record note” becomes available again. If you press it again without changing note, the measurement of that note will be overwritten.

Every time you start recording a new note, the old spectrum chart is deleted.

You can scroll the spectrum left and right. Every partial of the string will be identified by a red “X” like this one. If you are a bit nerdy, you will like this feature and it will let you understand how good is the quality of the measurement

Here you will see a lot of info, including the amount of partials identified, and their frequencies
“Harmonic succession: true” means that there are enough partial for a proper tuning and no missing partials in the middle of the spectrum

14:01



Nerd Artisan piano tuner

Project: default_piano

Archive: Device storage / Pianoprojects

Loaded char.json: 80 measured notes.

Select / Create Project

License: PRO

PRO - Google Play monthly

Switch to PRO

Characterizer

Calculator

Render

Tuner

Import project

Export/share project

Delete project

User manual

Official website

When you are done with characterizing, the next natural step is to use the calculator tool for calculating an optimal tuning.

15:03 91

Calculator

back

pitch raise

Project: default_piano

A4 frequency (Hz)	440.0	<	>
Internal weights			
2:1	1.50	<	>
4:2	2.20	<	>
6:3	1.40	<	>
10th+17th	1.30	<	>
12th	2.00	<	>
19th	2.20	<	>
double_octaves	2.10	<	>
triple_octaves	2.00	<	>
overall_stretch	2.60	<	>

Show data non-idealities

Show measured tuning deviation

Run Calculation

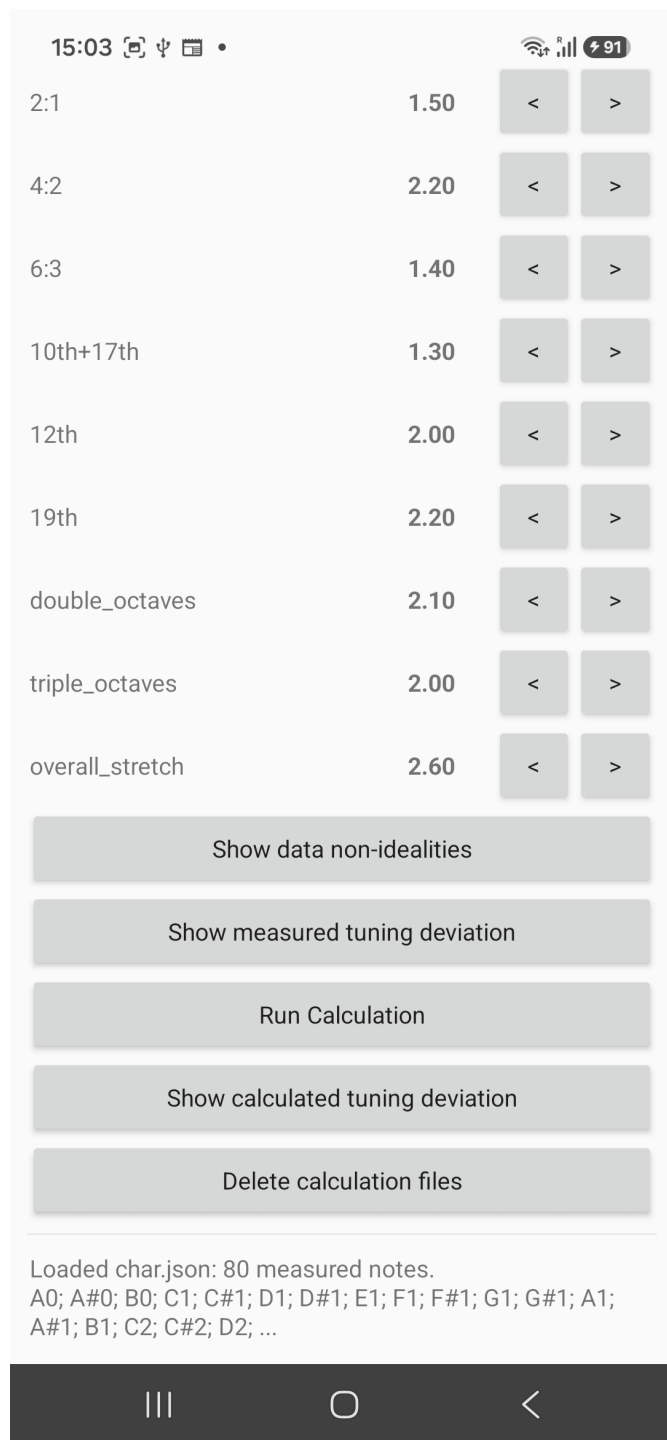
This is the calculator tool, which calculates an optimal tuning for your piano. The first thing you need to do, is to adjust the A4 frequency by using the arrow keys. Default value 440 Hz

The internal weights give you an arbitrary measure of relative relevance of some harmonic ratios and intervals for the tuning. The higher the more important.

Note that some weights are merged together: 10th+17th accounts for both 5:1 and 5:2; 12th for 3:1 and 6:2, double_octaves for 4:1 and 8:2

You can scroll up and down the screen, the last weight you see is “overall stretch” and basically gives more relative importance to longer intervals.

Pitch raise is exactly what you think. But **if you don't know what I am talking about, don't use it!** There will be a dedicated user guide to pitch raise functions



When you scroll down you see all the options.

“Show data non idealities” can give you an idea of some unexpected values gathered during the characterization. Read it only if you are really nerd. Hint: don’t care if there are non -idealities in very high order partials of treble register. If you are not new to piano tuning, you have an instinct for which partials really matter.

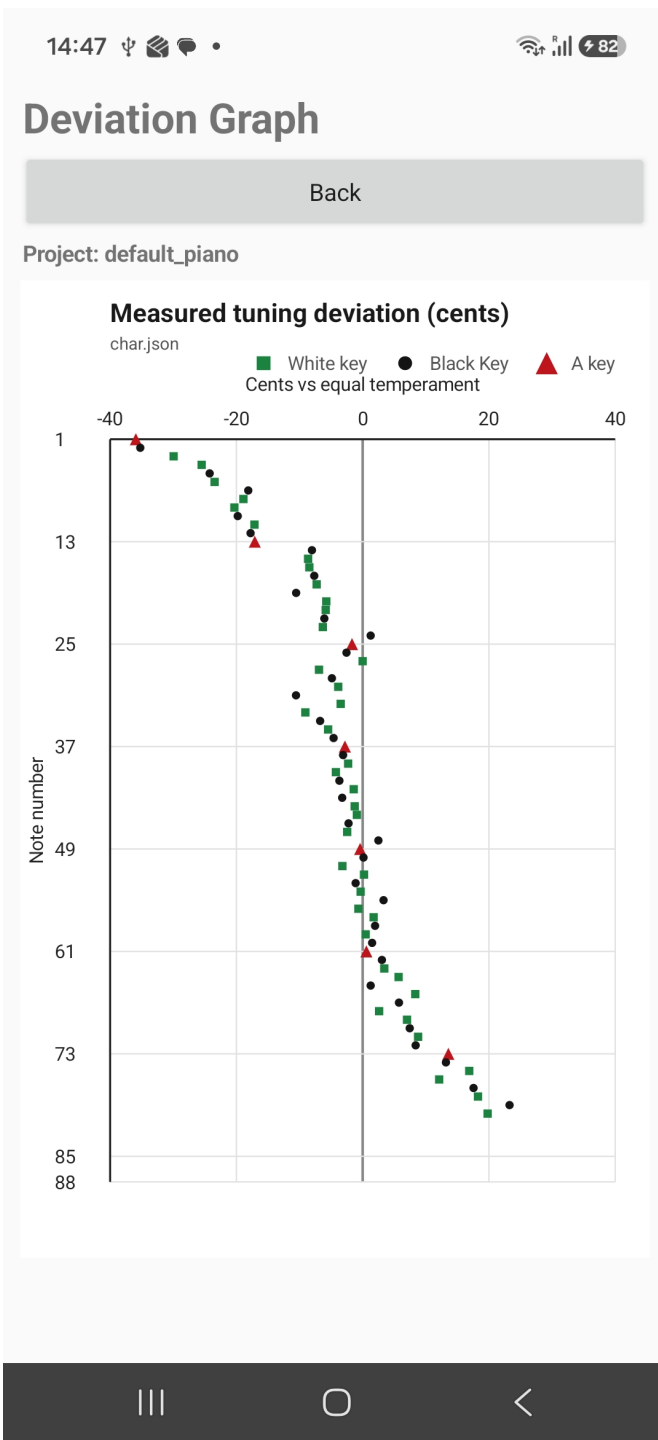
“Show measured tuning deviation” shows you the railsback curve of the piano as it was during the characterization.

“Run calculation” runs a calculation according to the weights and A4 frequency currently selected. The result is automatically saved with an automated naming strategy: the name consists of the A4 frequency and all the weights in order.

“Show calculated tuning deviation” shows the railsback curve.

“Delete calculation files” allows you to delete calculation files individually – they can really be too many, at a certain point.

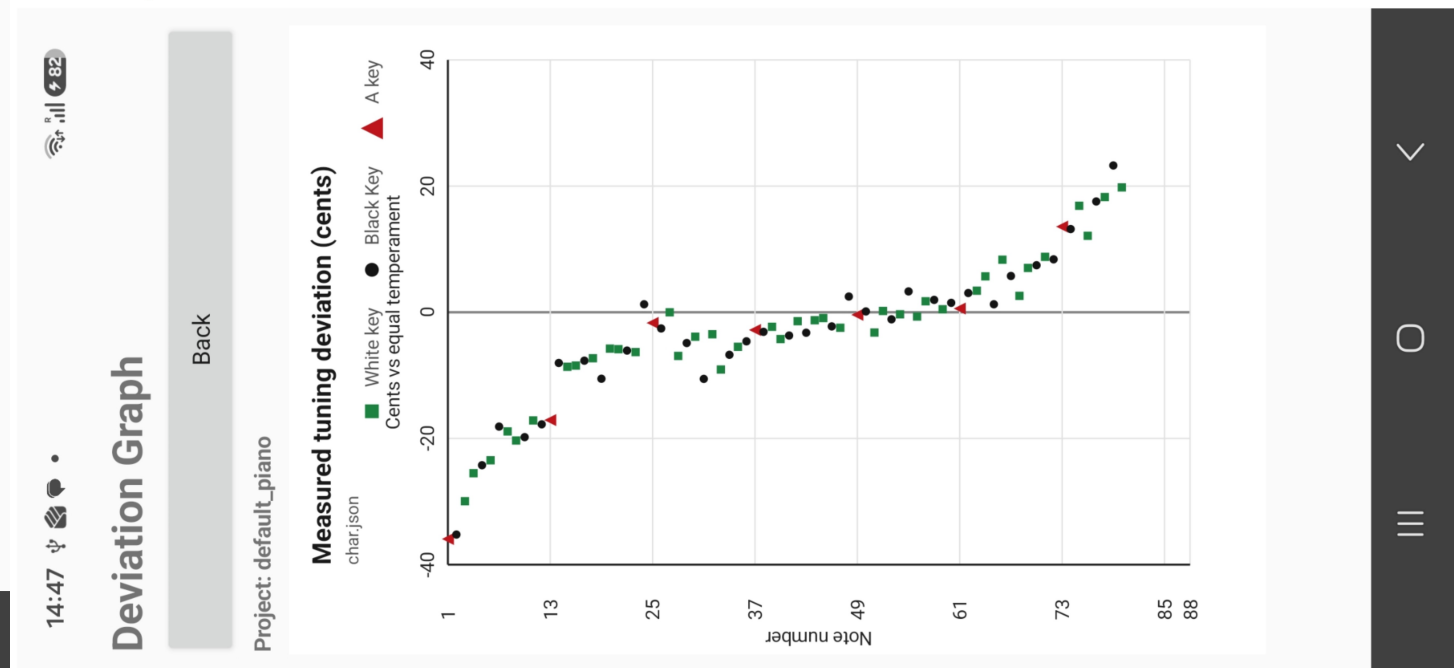
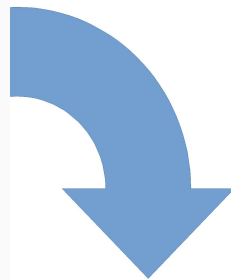
On the bottom of the screen, you see a log with several details.

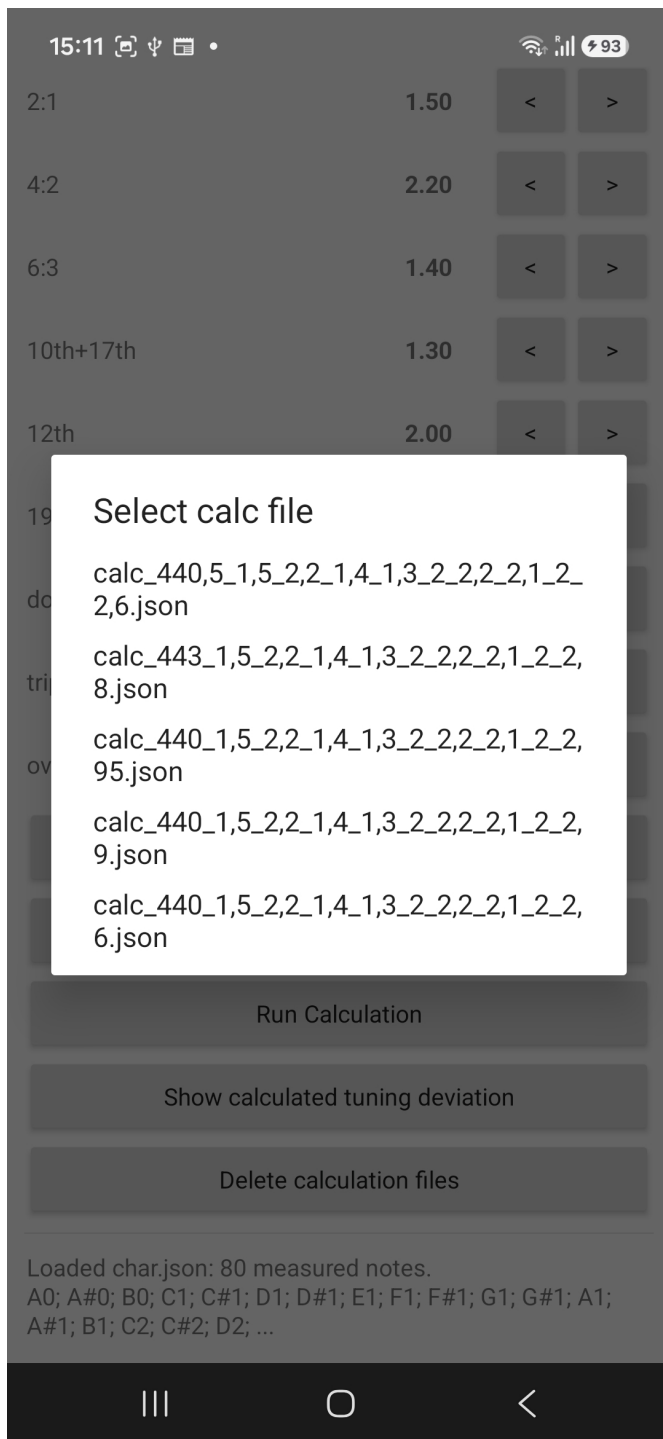


When you press “Show measured tuning deviation”, you will see a chart like this. In this case, the piano is not all that much out of tune.

I forgot to mention that this app does not allow for screen rotation, so if you want to see the curve in the most familiar way... just rotate the device in your hands!

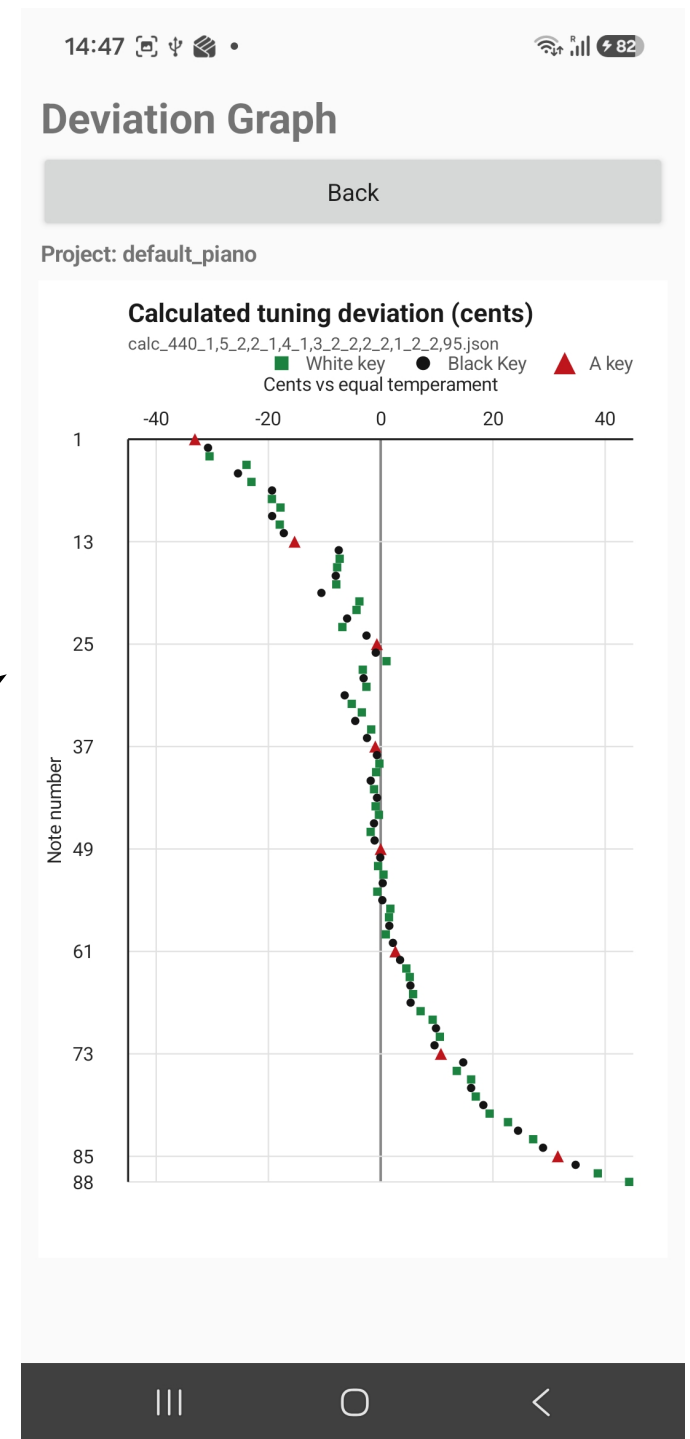
As you can see in the legend, the chart shows green squares for the white keys, black dots for the black keys and red triangles for the natural A notes

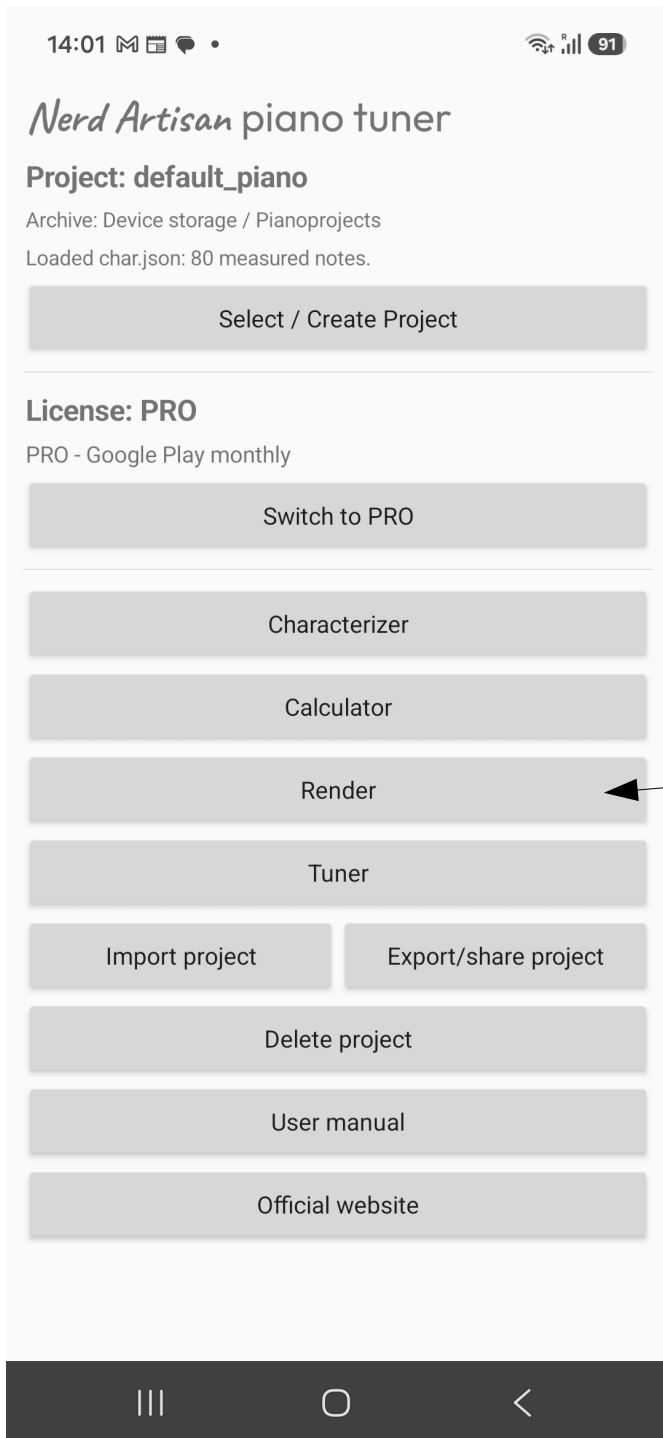




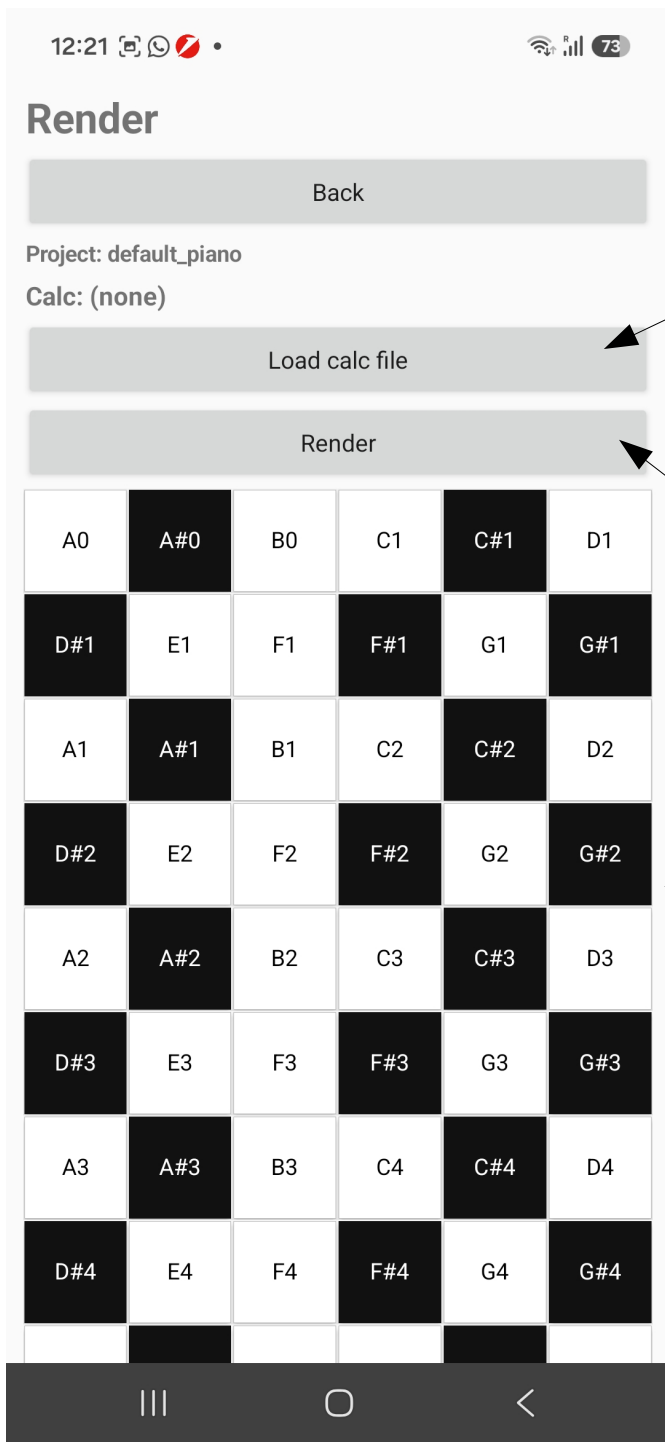
When you press “show calculated tuning deviation you will be asked to choose a calculation file, they will be displayed in order of last modification date, from the newest to the oldest

This is the railsback curve i get for my piano.
Yours may look different (otherwise this software would not be very useful :))





Then comes the render tool. It allows you to make yourself an idea how the calculated tuning will sound like. The render tool... does what it can, you can rely on it, but with some limitations.

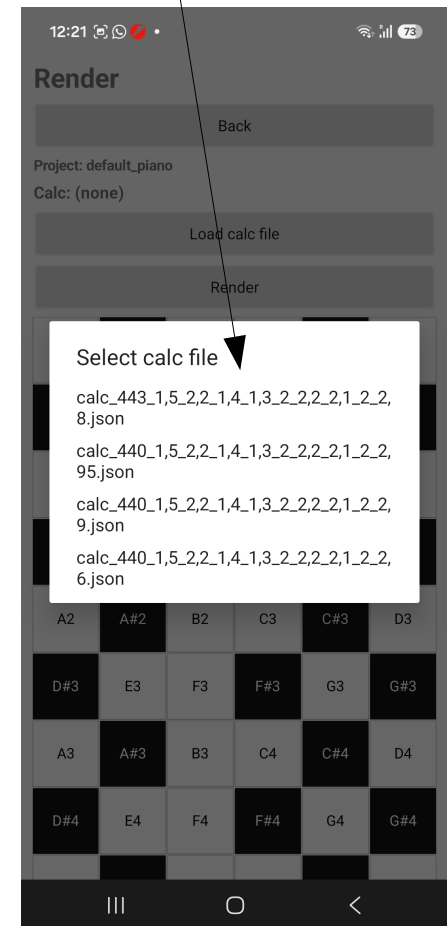


This is the first button you need to use in this tool. When you press “Load calc file” you will be asked to select a calc file to be rendered.

Then you press “render” to actually create the rendering of the tuning

This scrollable (you can scroll it up and down) keyboard is the best idea I managed to come up with, I know it is not ideal but it works. Its logic is self-explaining. It has a quite limited poliphony of 5 notes.

And yes, typically the real piano will sound better than the rendering, if you do a good job with the lever.



14:01

91

Nerd Artisan piano tuner

Project: default_piano

Archive: Device storage / Pianoprojects

Loaded char.json: 80 measured notes.

Select / Create Project

License: PRO

PRO - Google Play monthly

Switch to PRO

Characterizer

Calculator

Render

Tuner

Import project

Export/share project

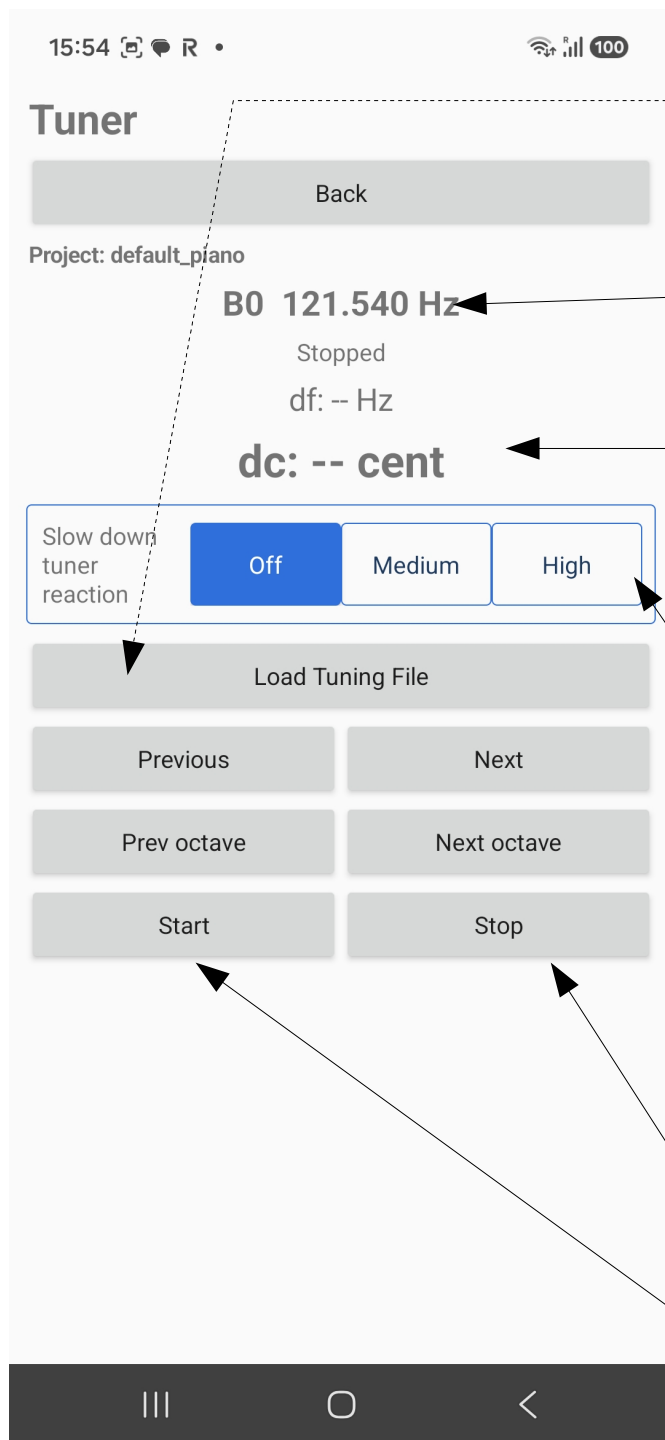
Delete project

User manual

Official website

And finally, the Tuner tool, that you will use for the actual tuning.





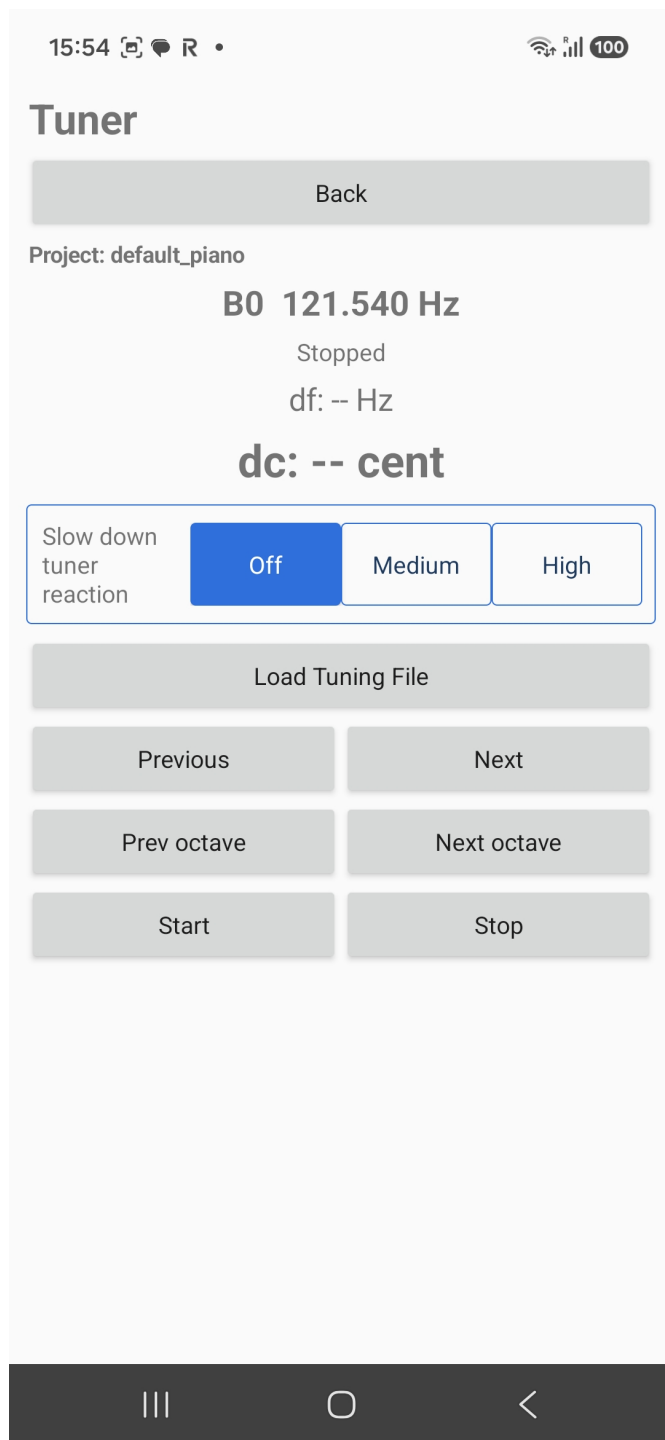
As a first thing you will press “Load tuning file” to select the tuning file you want to use for the tuning

Here you read the desired frequency for the note you are tuning. *HEY! Why 121.54Hz for B0??* - For bass notes, the app does not use the fundamental. This provides a better result. B0, for instance, is tuned by using the 4th partial.

Here at df and dc respectively, you will read how many Hz and how many cents away are you from the desired frequency

This “slow down tuner reaction” thing will allow you to stabilize the reading, at cost of reactivity. It can really be of help.

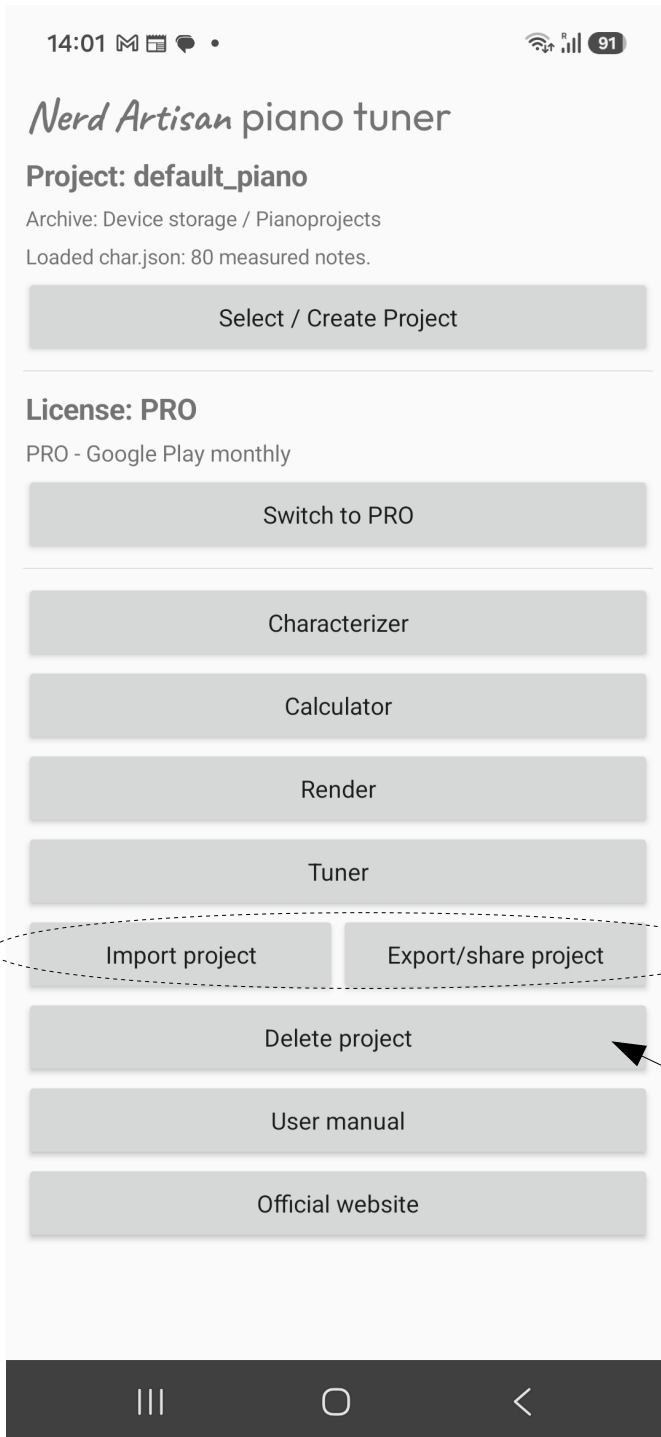
“Start” and “Stop” are actually starting and stopping the tuner from recording.



Further tips:

You will note that the frequency changes during the note decay even without moving the tuning hammer. That's normal. Some tuning tools freeze the reading at a certain time after the note attack. Personally, I prefer to have a continuous reading. You need to get used to it but a continuous reading is quite informative.

Nowadays, phones have decent microphones that can do the job properly. But If you can borrow an external compatible mic from a friend and see if you have a better experience, i strongly encourage you to do so.



Import project and Export project can import or export projects from your phone. You can store them in a cloud, send them to people via messaging apps or anything else.

The export tool creates zip files, and only project files in the same format can be imported

“Delete project” opens the list of all projects saved on your device allowing you to choose one for deletion. Use it carefully!