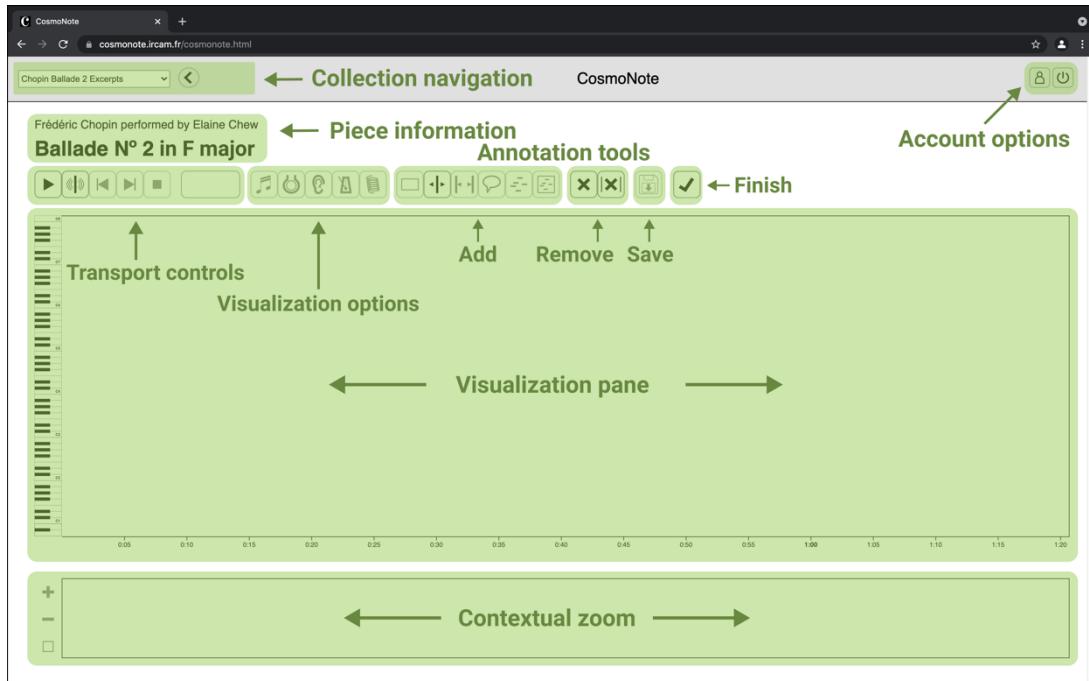


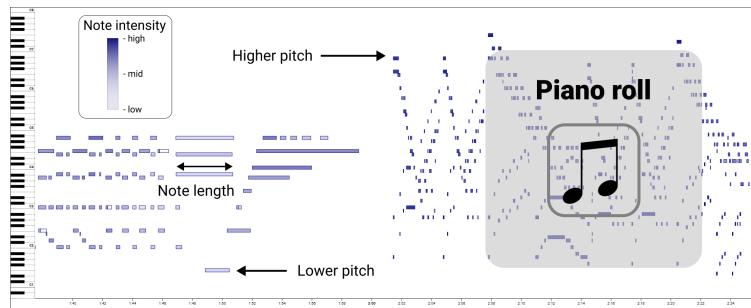
How to use the CosmoNote interface?

CosmoNote is an web-annotation tool used to mark musical structures created in performance. These are the elements in the main screen of CosmoNote:

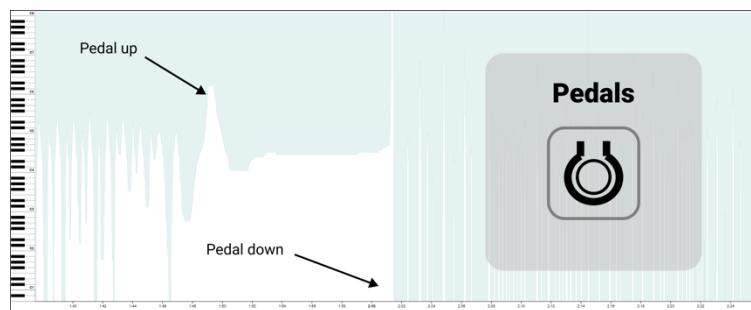


Visualizations

CosmoNote is capable of displaying several layers of information about musical data. All of them are displayed as a function of time. There are 5 main visualizations:



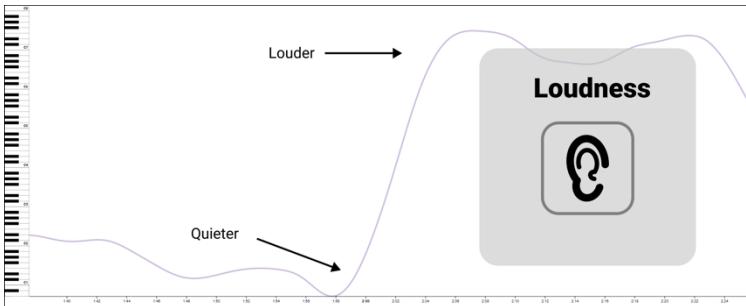
The notes of the recorded performance are represented as rectangles. The horizontal axis depicts time, the vertical axis the pitch (frequency) of notes. The darkness of the note color denotes its intensity.



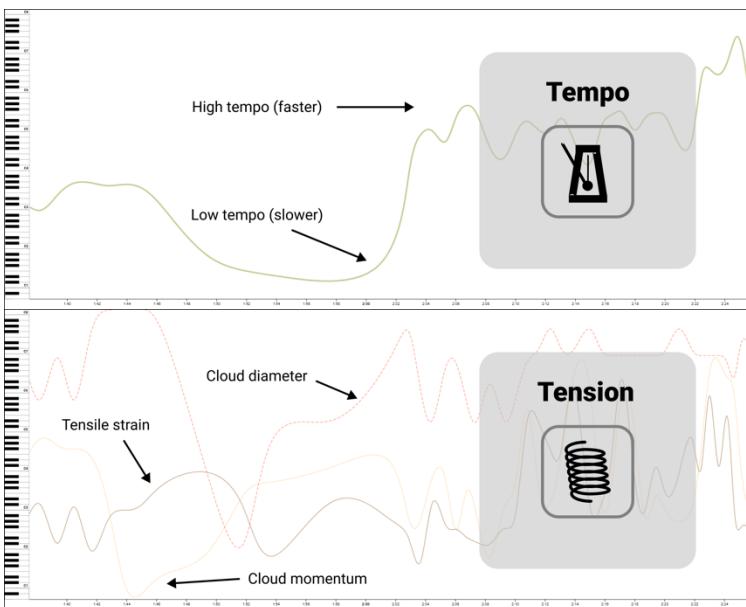
On a piano, the pedals can change the sound produced by the instrument. This visualization shows how deep the performer pushed the sustain pedal over time. There are three pedals on a piano:

- the **sustain** (right) pedal allows the notes to ring freely and for the sonorities of different notes to merge;
- the **soft** (left) pedal softens the sound of the notes and changes its timbre; and,

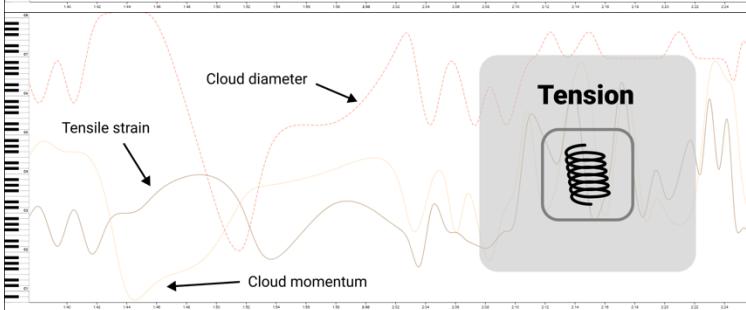
- the **sostenuto** (middle) pedal enables only selected notes to be sustained.



Loudness is used to represent the perceived intensity of a sound. The higher the curve, the louder (more intense) a given passage is in a piece, and vice versa.



Tempo is a measure of the speed of the music, usually measured in beats per minute. A higher tempo curve means the music is faster while a lower curve represents a slow passage in the music.



Harmonic tension captures the relationship of notes and chords to theoretical concepts in music. When the music is highly dissonant, the performer may choose to slow it down for greater effect. 3 curves are shown:

- CloudDiameter:** Represents dissonance
- CloudMomentum:** Measures harmonic change between chords
- TensileStrain:** Measures current distance from the tonal (key) center. When the music is highly dissonant, the performer may choose to slow it down for greater effect.

Transport controls

These buttons belong to the Play mode and they let you control what you hear. Many of these will be familiar from any musical player you've encountered before.



Play/Pause: Click or press space to play, pause or unpause the audio reproduction. A green playback head that follows the audio will appear.



Boundary sound: Press this button to enable or disable a sound that's played at the time you placed a boundary.



Previous/next annotation: Click to move the playhead to the next boundary annotation.



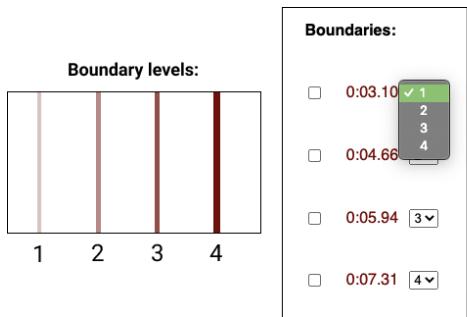
Stop: Resets the position of the playhead to the start, stops the reproduction and exits Play mode.

Annotation Tools

What makes CosmoNote special is the ability to annotate music in a visual way.



We will focus on the Boundary tool, which creates vertical lines by clicking with the mouse on the visualization window or by pressing the 1,2,3,4 keys while audio is playing.



In CosmoNote, a boundary is depicted by a line marking a single time location; the width of the line and the darkness of the line color are associated with the boundary levels. To account for different degrees of change that can constitute a boundary, there are four levels of you can choose from, in ascending order, from 1 to 4.

Marking boundaries

To mark a boundary you have two options:

Keyboard (Play mode)

Simply press [1], [2], [3], or [4] on your keyboard to mark boundaries while the audio is playing. The level of the boundary will be inferred from the key you pressed.

Mouse

- Select the boundary tool
- Click at a particular time point (level 4 by default)

Selecting and editing annotations

- To select any annotation, you simply click over it with the mouse while in annotation mode.
- To change the boundary level, select a boundary and then change its level from the dropdown list shown below.
- To move a boundary, click over it and drag it to its desired location using the handles on top.

You can also delete annotations and save your work using these buttons:



Delete current: Click to delete the selected annotation(s).

Delete all: Clicking this button will delete all your annotations after confirmation. Be careful!

Save: Click to save your current annotations.

Finish: Click to freeze the current state of your annotations for the current piece and submit them for analysis.

Navigation and account

The upper part of the screen tells you details about the current piece, whether there are more pieces to listen to and lets you log out or deactivate your account.



Collection navigation: A collection is a group of pieces you can annotate. They appear in a dropdown list and you can move through them using the arrows.

Piece information: For each piece, the site will display: Composer, performer, title. This can be disabled for specific studies.

Account management: On the top right corner you can use these buttons to disable your account (left) or just log out (right)

Interface Modes

All your interactions with the site happen in one of two modes:

1. The play mode

Lets you hear the music and use some keyboard shortcuts to annotate. To enter this mode you click the **Play** button or hit the space bar. To exit this mode you click the **Stop** button or hit the Escape (Esc) key.

2. The annotation mode

The music is stopped and your mouse is your main annotation tool. You enter this mode by clicking on any of the annotation tools (described below) or by exiting the Play mode.