



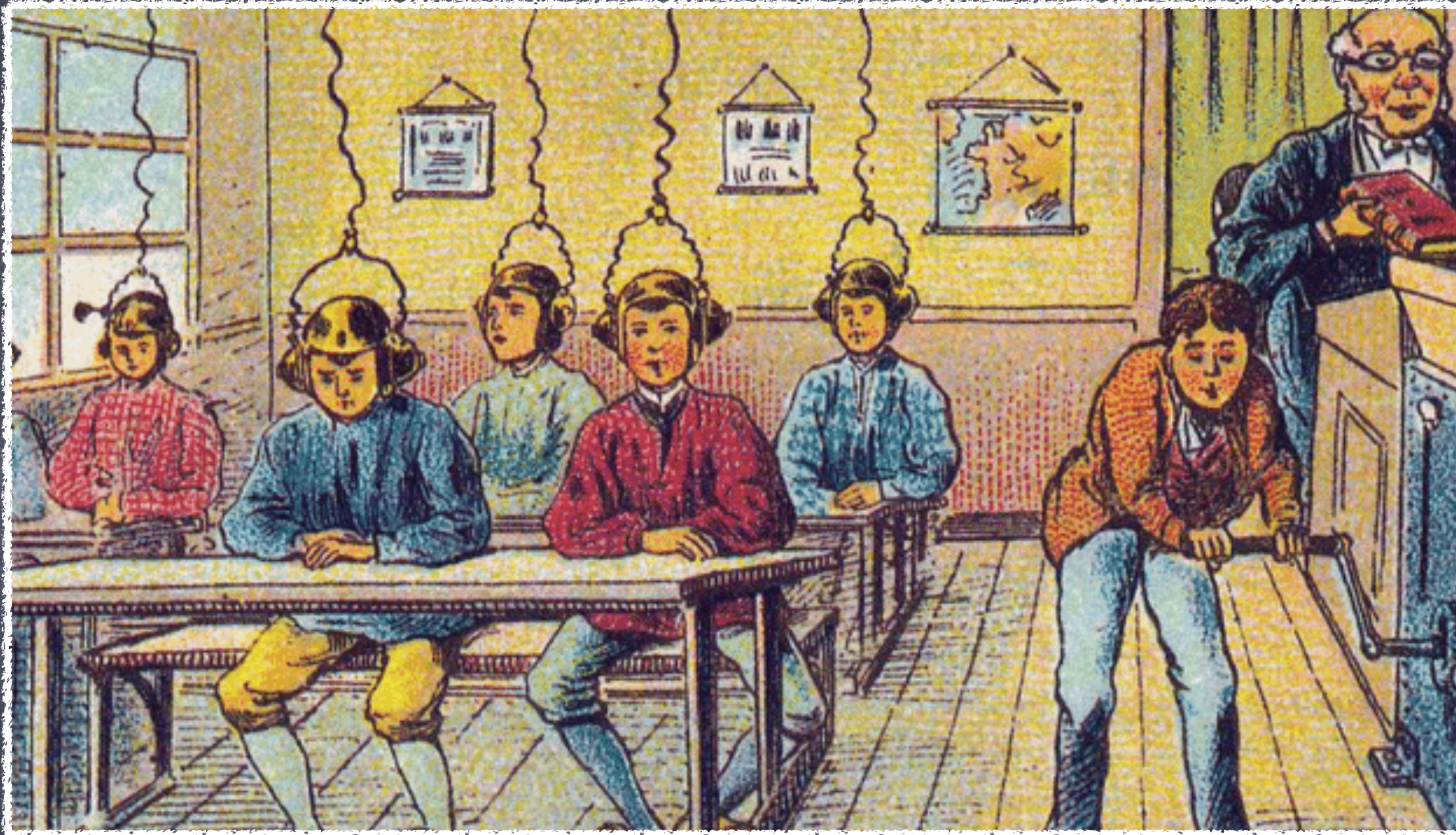
Making Music without Threshold

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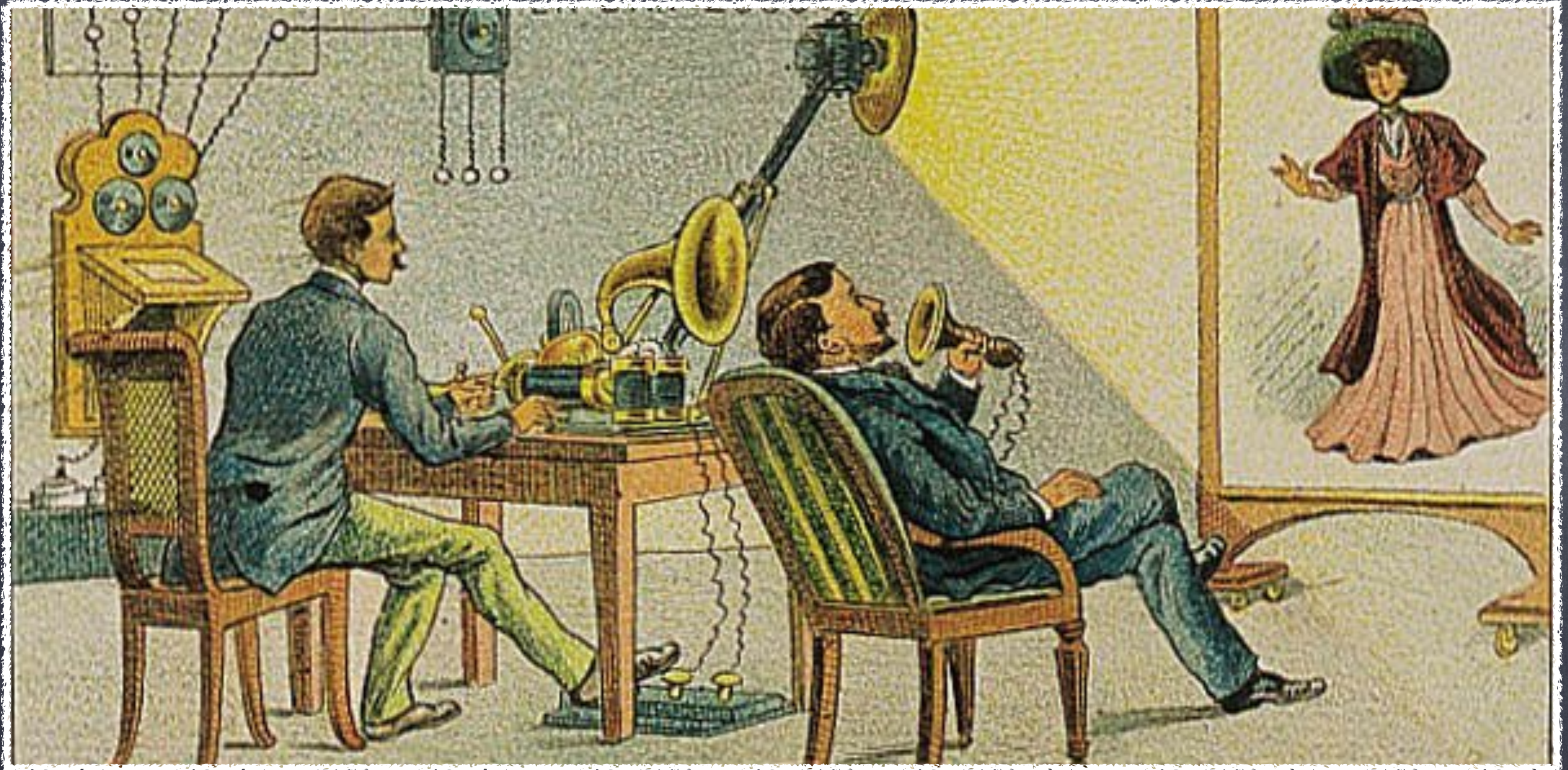
Learning Is Changing

Computer class 60 years ago



Learning Is Changing

"Na escola" - série "Utopia", de Villemard, 1910



Learning Is Changing

"Fonotelégrafo" - série "Utopia", de Villemard, 1900

To the Cloud

Background

- applications are no longer locally in the computer, services are, instead, in the Internet and we'll access them via browser
- data resources and documents are there, too
- externalized technical support

To the Cloud

- ever growing variety of resources
- provided by scientific societies, commercial companies, multimedia artists, enthusiasts...
- one has to filter resources
- simple and explicit, better for pedagogical uses

To the Cloud

- notation, composing, accompaniment, arranging, audio laboratory...
- tools for several teaching positions and needs
- support for pluralistic attitude in music education

To the Cloud

- ① emphasis on communities
- ① communities are easily integrated while both tools and products are in the net
- ① modern music education benefits the means: make together, publish to each other

Pros in the Cloud

- immediate access to the tools, no downloading and installation
- no licences, no updating, no backup copying
- tools work everywhere where is a computer and Internet access
- work similarly on different platforms and operating systems (with some exceptions), cont'd.

Pros in the Cloud

- normally the use is free at the basic level
- integrated support for communities (publishing, delivery, collaboration)
- easy access to (nearly) everyone
- empowerment-as-enablement: tools which would not be possible to use otherwise (virtual instruments, orchestras, musicians); enable processes like working in audio laboratory (cont'd)

Pros in the Cloud

- empowerment-as-enablement: enables one's own output, cultural production like composing, arranging, playing
- supports music education of special needs

Cons in the Cloud

- need of access to Internet, operations depend on the bandwidth in use
- possible needs of plug-ins
- browser incompatibilities
- registrations, sign-ups
- commercial intrigues functions

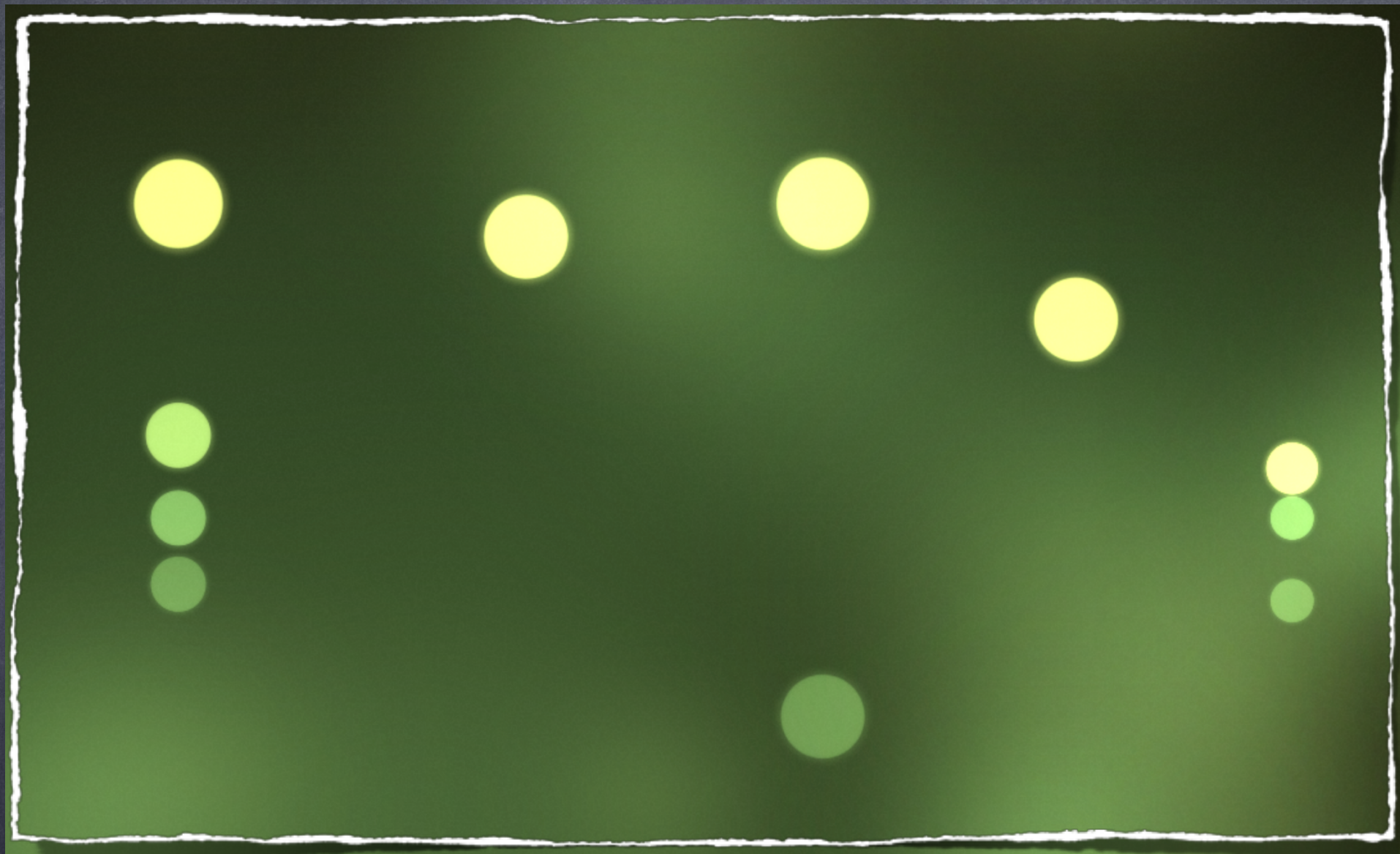
Cons in the Cloud

- application appears, application disappears
- may be labile
- no localization

No Threshold
With Keyboard
Fill the Grid
The Ambience & Groove
Notation
Loops & Sequencing
Creating & Collaborating

No Threshold

Touch Pianist



Virtual Drumming



<https://www.virtualdrumming.com>

Gregorian Voices



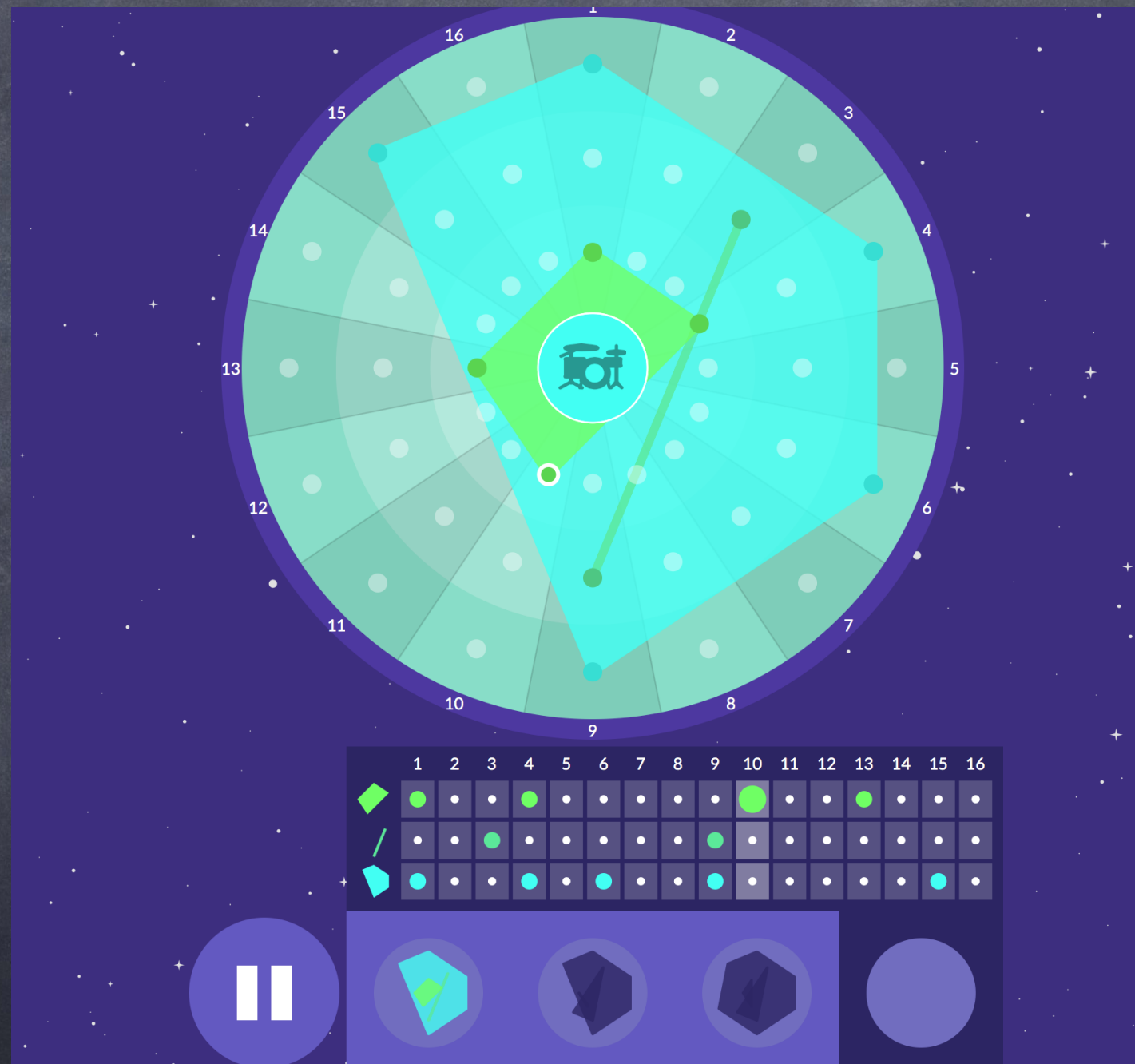
Viktor NV-1



Incredibox



Groove Pizza



CHROME MUSIC LAB

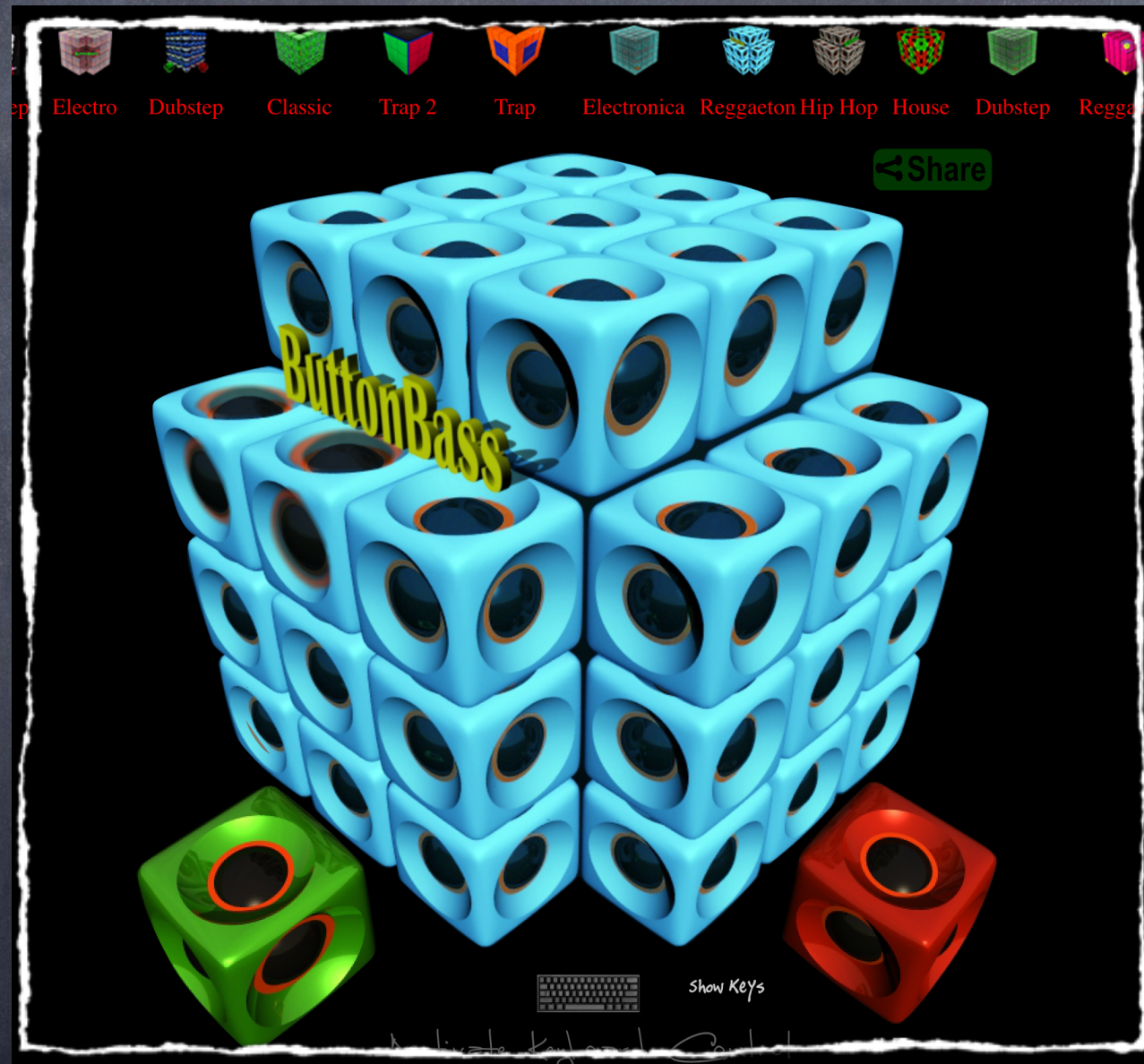


With Keyboard

Tony-B machine

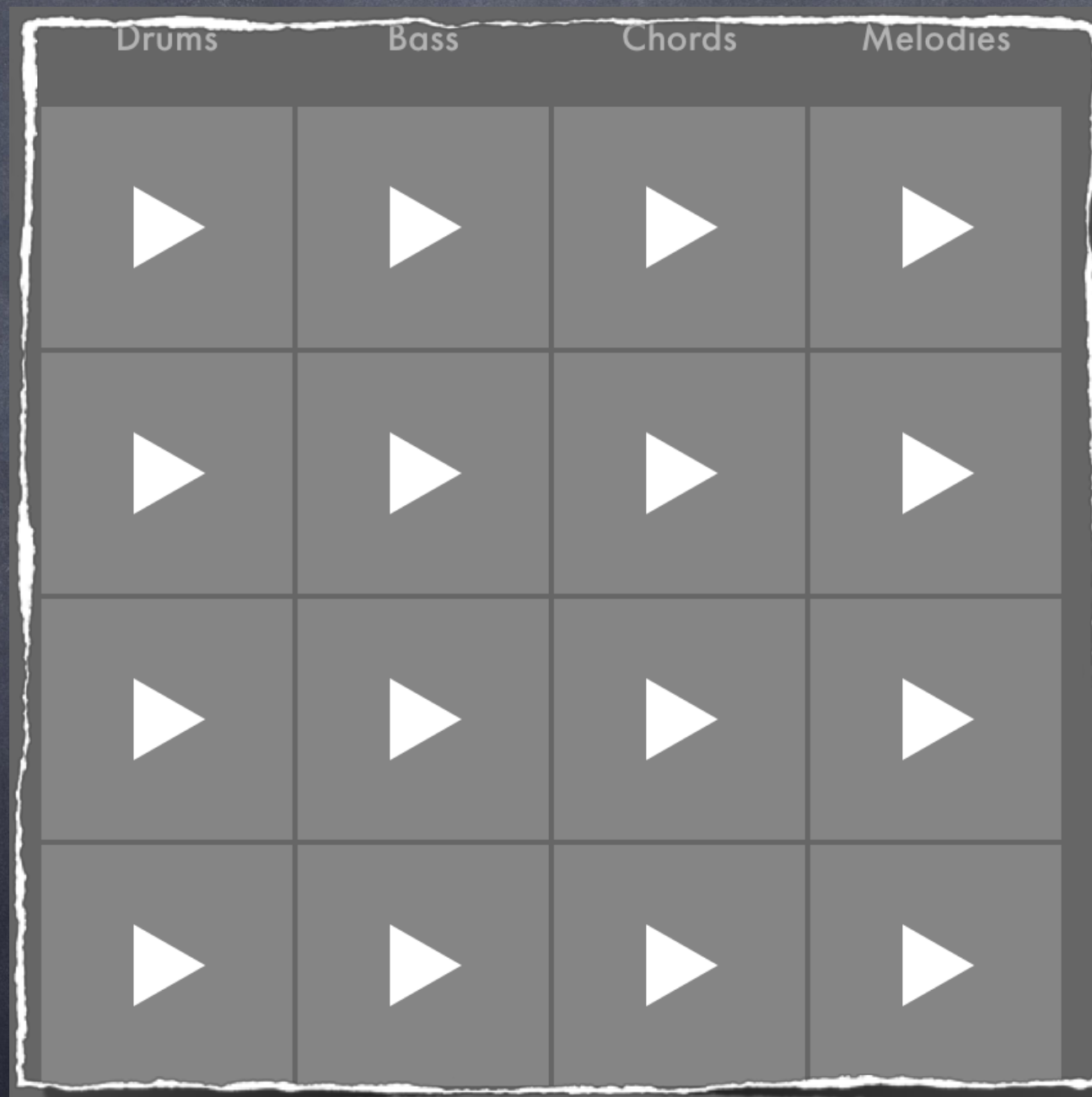


Button Bass

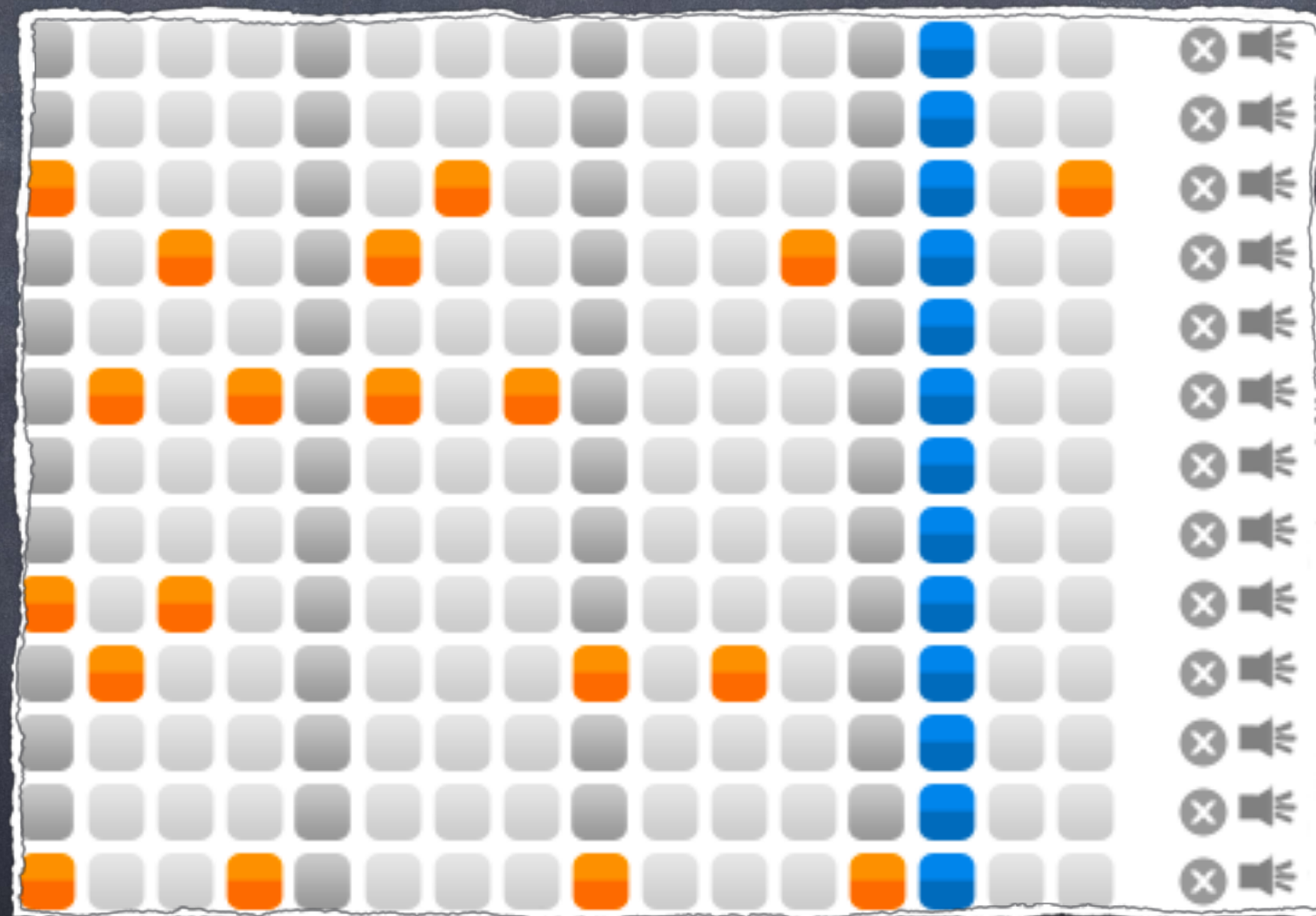


Fill the Grid

Ableton education



Beatlab



<http://www.beatlab.com/>

The Ambience & Groove

Ambient Mixer



YouDJ



Notation

Noteflight

The screenshot displays the Noteflight software interface. At the top is a toolbar with icons for Play, Transcribe, Record, Save, Instruments, Sync Audio, Page View, Zoom, Keyboard, Help, and Connect. Below the toolbar is a secondary toolbar with icons for score, tempo, text, duration, measure, and pitch. The main workspace shows a musical score for a piece titled "Taikahuilu". The score is in 3/4 time, with a tempo of 120. The lyrics are in German: "Wie stark ist nicht dein Zau - ber - ton weil, hol - de Flö - te, hol-de". The score is written for a single instrument, likely a flute, and includes a key signature of one sharp (F#).

noteflight

Play Transcribe Record Save Instruments Sync Audio Page View Zoom Keyboard Help Connect

score tempo 120 text duration measure pitch

la- T f A⁷ A

Taikahuilu

(Lyricist) (Subtitle) (Composer)

(Part)

Wie stark ist nicht dein Zau - ber - ton weil, hol - de Flö - te, hol-de

Loops & Sequencing

JamStudio

The screenshot displays the JamStudio software interface, which is divided into four main sections:

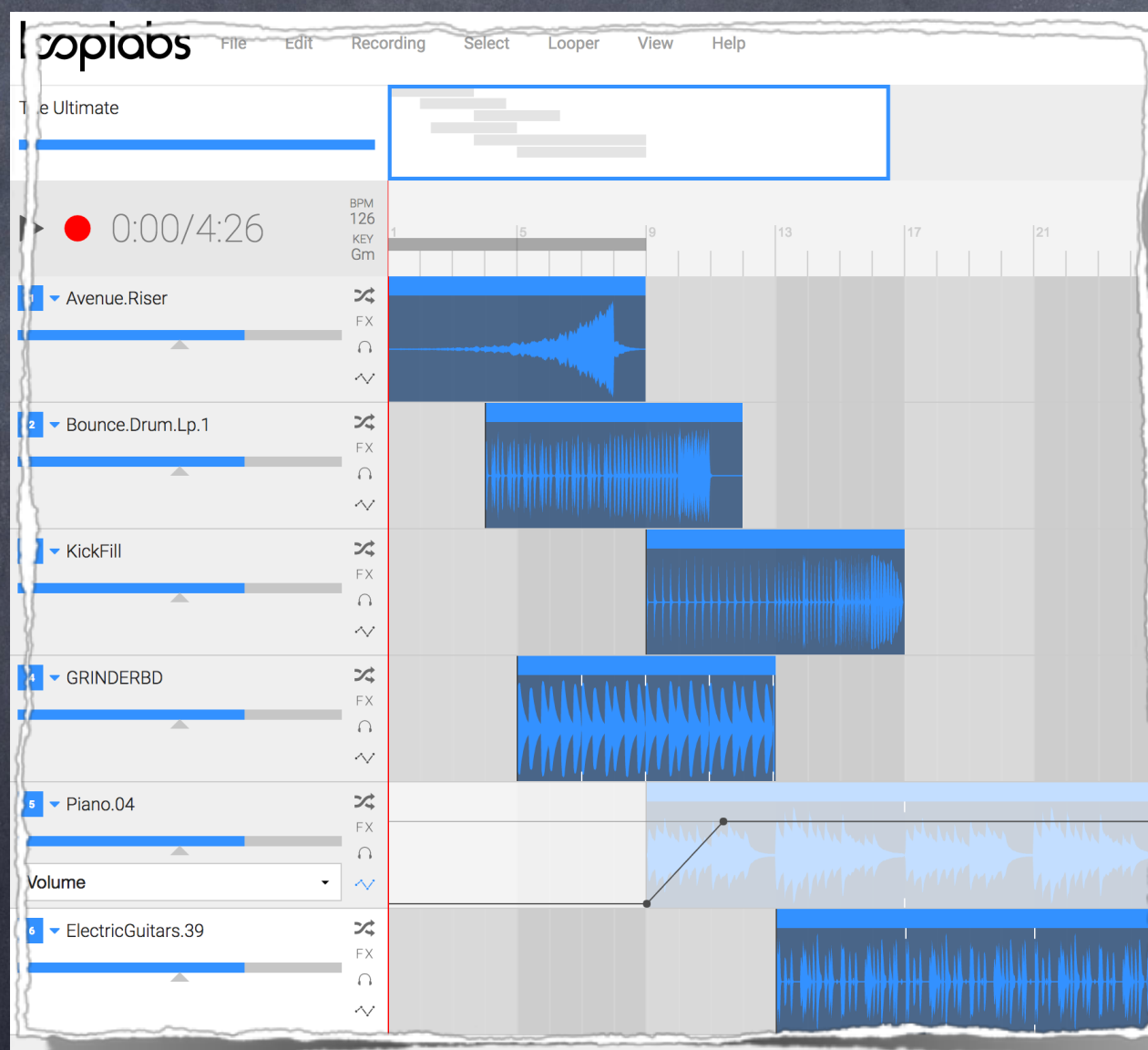
- SCORE (Top Left):** Features a 3/4 time signature and buttons for INSERT and DELETE. The score editor shows four staves with chords: G, Em, G, A; Am, F, G, G; Dm, D, Am, Am; and G, D, D, G. A "Play Page Order" field is at the bottom.
- CHORDS (Top Right):** Displays the current key as G and a list of variations including E, F, F#, G, G#, A, A#, B, C, C#, D, and D# with their corresponding minor variations (e.g., Em, Fm, F#m, etc.).
- MIXER (Bottom Left):** Shows a tempo of 89 and a list of instruments with volume sliders: Guitar.Classic, Drums.Jazz Shot, Bass.Gallop, EGuitar.Convertible, EGuitar.Diamonds, EGuitar.Clean and Dirty, Piano.Titanic, and EPiano.Lullaby.
- SOUNDS (Bottom Right):** Includes a "Drums" dropdown menu and a list of sound effects: Sit Back, Crashin, Poppy, Jazz Shot, Bouncy Ball, March, Silk, Groovin, Slip N Slide, Sideshow, Big Top, Trot, Cleopatra, and Dallas.

Sound Infusion

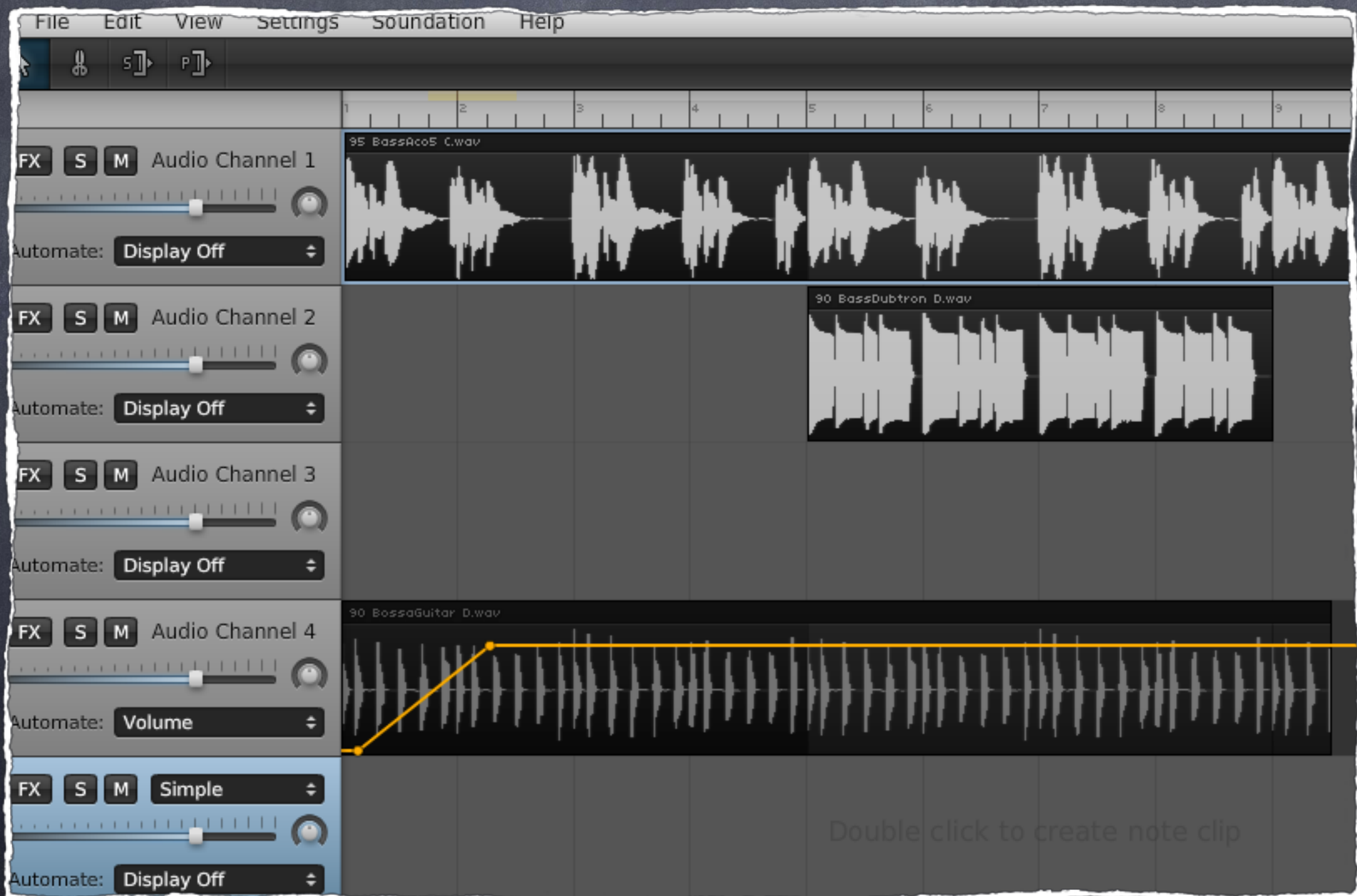


<https://soundinfusion.com.au>

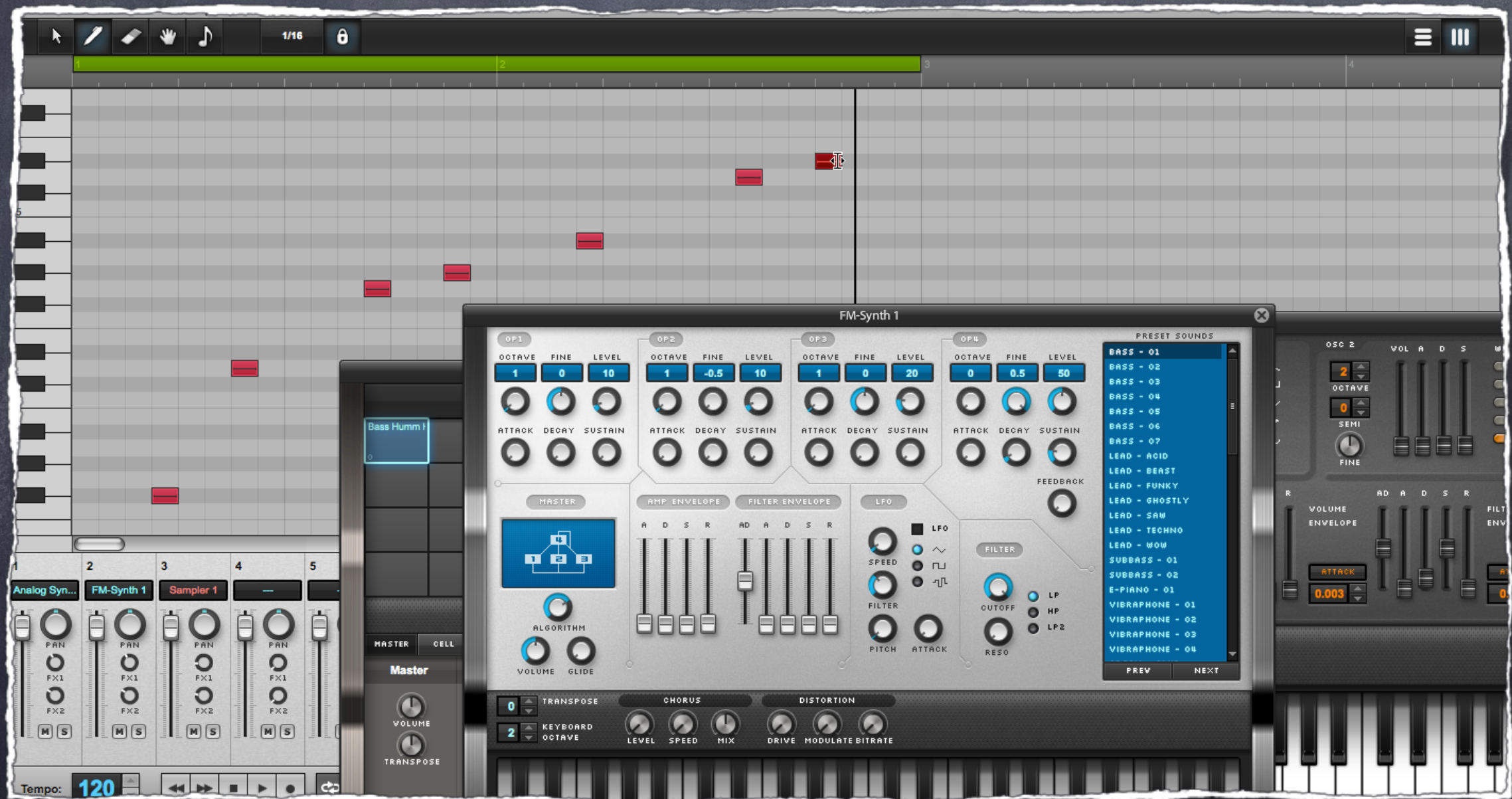
Looplabs



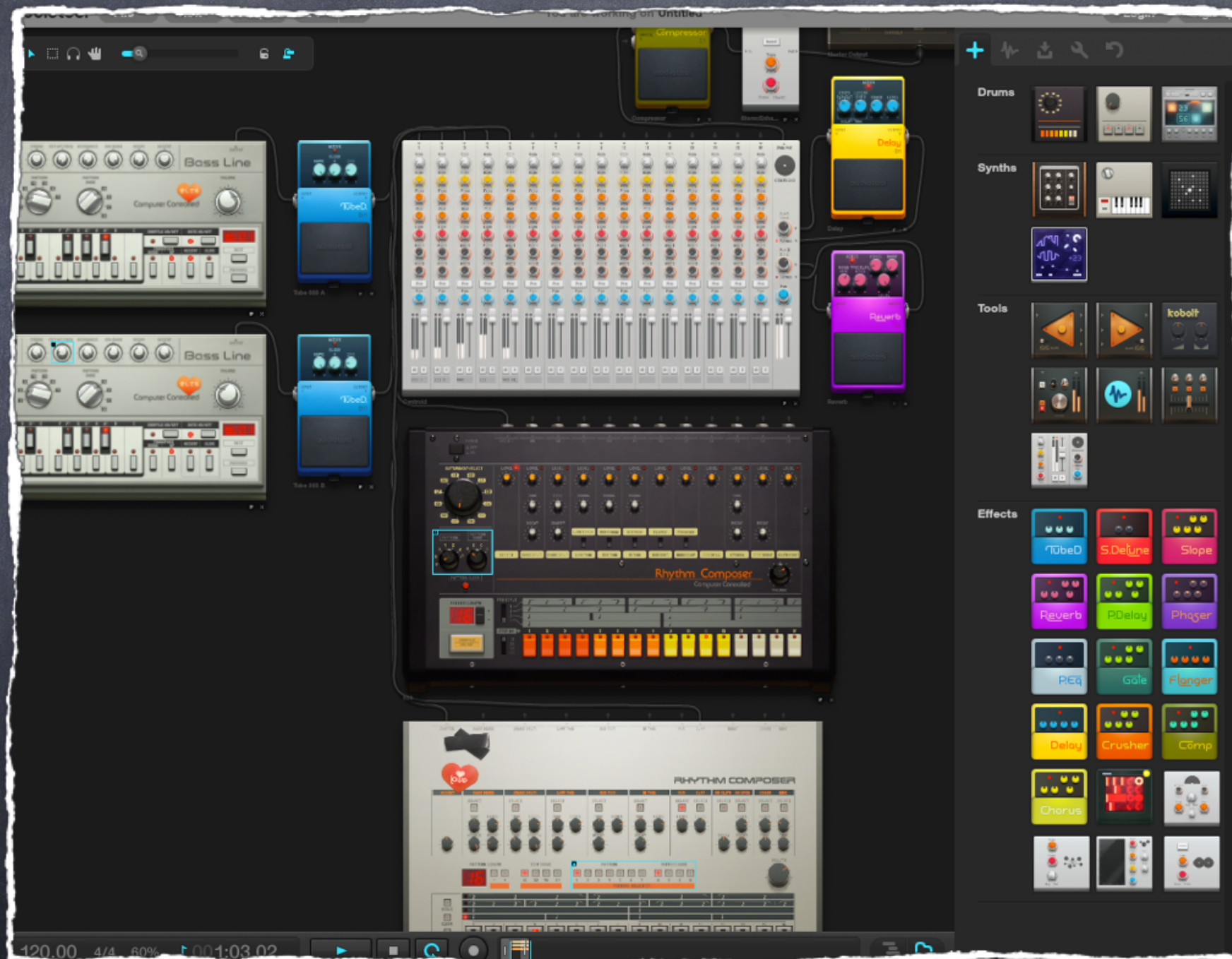
Soundation



Audio Sauna

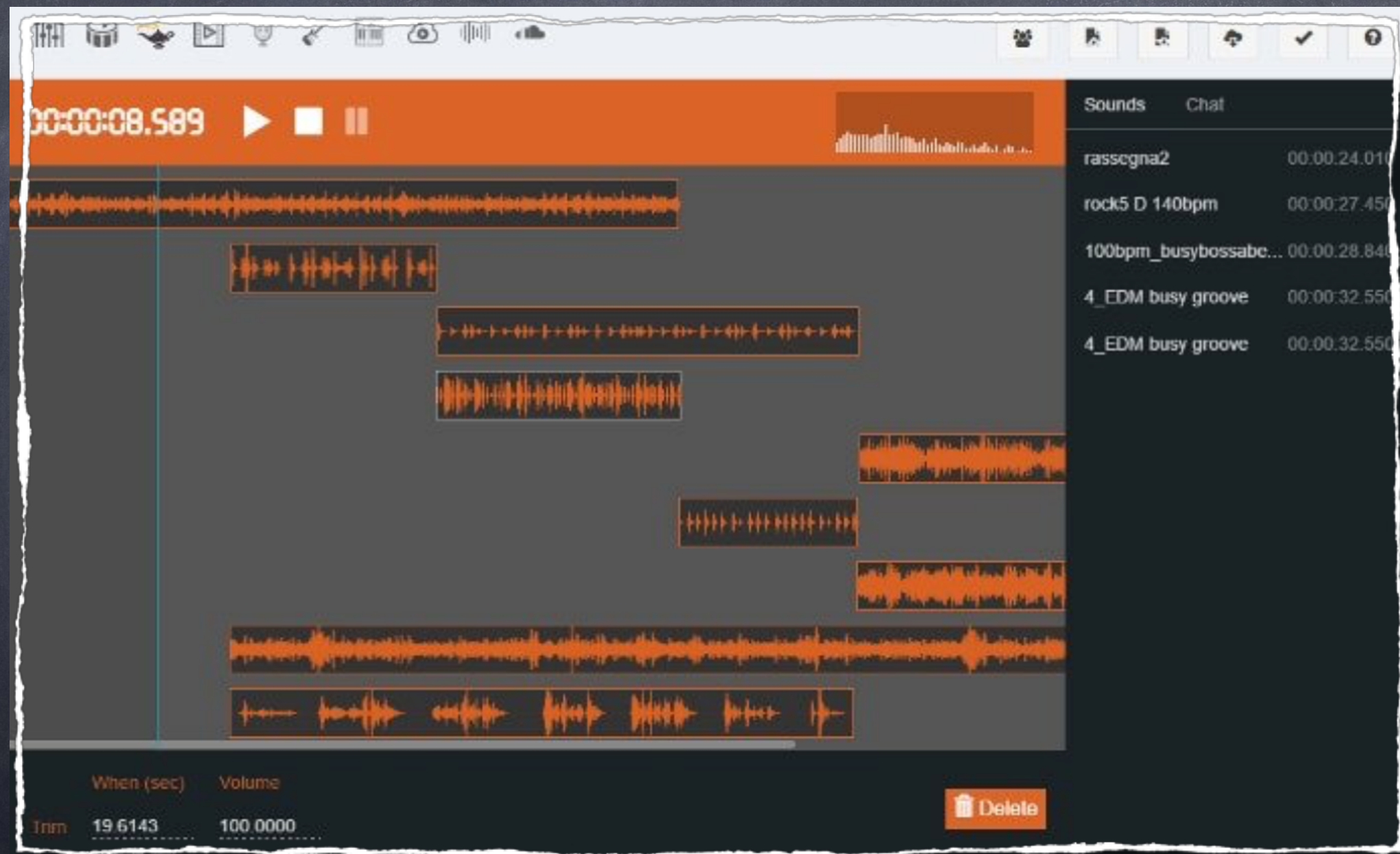


Audiotool

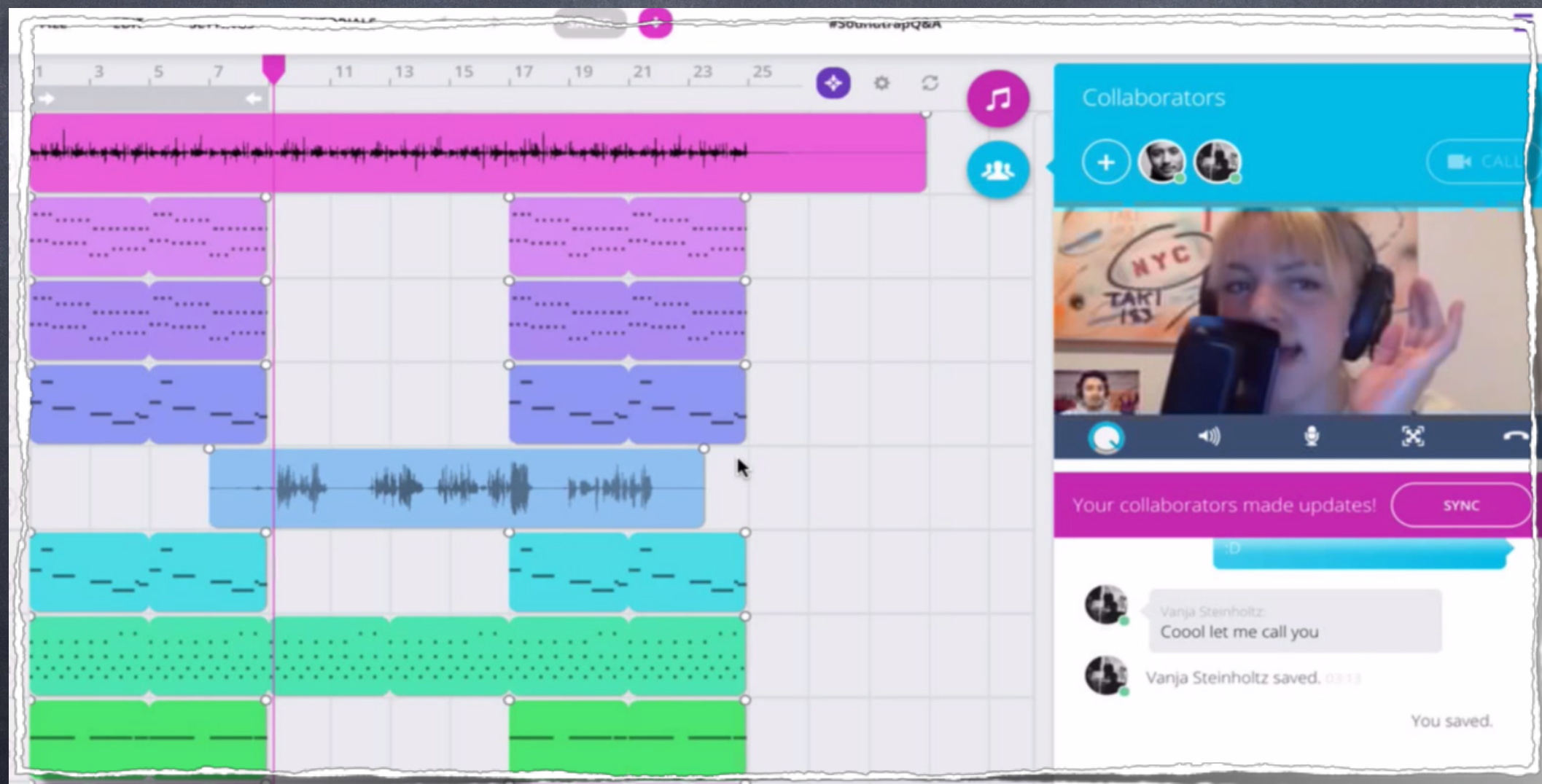


Creating & Collaborating

Snapjam



Soundtrap



Bandlab

The screenshot displays the Bandlab web interface, a digital audio workstation (DAW) for creating music in a browser. The interface is divided into several sections:

- Top Bar:** Contains playback controls (undo, redo, loop, solo, mute, volume), a timeline with a playhead at 00:00.0, and settings for key signature (F min), tempo (120 bpm), and time signature (4/4).
- Left Panel:** Features a track list with six tracks: "Funky Moving Guitar", "Dance The Night Away B...", "Good Lovin' Guitar", "Pop Beat 01", "Hard Guitar", and "Track". Each track has a microphone icon, a volume slider, and a "Fx" (effects) button.
- Center Area:** A multi-track timeline with 9 lanes. The first track (red) contains a guitar waveform. The second track (blue) contains a piano waveform. The third track (purple) contains a guitar waveform. The fourth track (pink) contains a piano waveform. The fifth track (purple) contains a guitar waveform. The sixth track (pink) contains a piano waveform.
- Right Panel:** Displays a "Loop Packs" section with five categories: "Grime" (Grit & Grime, 24 Loops), "Electronic Fusion" (Tweelectronics!, 24 Loops), "Funk" (Get your body moving!, 24 Loops), "Minimal" (Minimal soundscapes and master beats, 24 Loops), and "Trap Pop".
- Bottom Panel:** A virtual piano keyboard interface with a "Track" dropdown menu (set to "Piano") and a "Grand Piano" dropdown menu. It includes a "WEB MIDI" button, a "Fx: None" dropdown, and a "SUSTAIN" button. The keyboard is labeled with letters (S, D, G, H, J, L, 1, 3, 4, 5, 7, 8, 0) and numbers (Z, X, C, V, B, N, M, , , Q, W, E, R, T, Y, U, I, O, P).

<https://www.bandlab.com/>

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