All things live coding

awesome

> A curated list of live coding languages and tools

This list was created with the intention of giving a quick-glance over the many possibilities to engage in this practice. For further information, head over to TOPLAP.

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What is live coding

Quoting Wikipedia

> Live coding (sometimes referred to as 'on-the-fly programming', 'just in time programming' and 'conversational programming') is a performing arts form and a creativity technique centred upon the writing of source code and the use of interactive programming in an improvised way.

Websites

- TOPLAP - The home of Live Coding.
- LiveCoding.fr - French-speaking information website on Live Coding

Community

- Directory of local TOPLAP nodes / live coding collectives: https://toplap.org/nodes/
- livecode mailing list - Old school email discussion list, going since 2004!
  - Archive from February 2004 - August 2023
  - Current archive
- Web forums
  - TOPLAP Forum - A web-based 'discourse' forum for in-depth discussion and exchange around live coding.
  - Tidal club - A discourse forum for TidalCycles (including for the video course)
  - Lines Forum - from the monome community, with loads of general music tech threads including on live coding
- Discord servers for live chat around live coding
  - TOPLAP - cross-community live coding chat + discussion
  - Estuary
  - Hydra
  - Cane
  - gwion
  - Pure Data
  - SuperCollider
  - TidalCycles, Strudel and friends
  - Bubo Tools
- Signal groups, also for live chat:
  - Live Coding universe
  - Live Coding janitors - For discussion of internet infrastructure around live coding, including both ethical and technical issues
  - Live Coding uk
  - Live Coding london
- Mastodon
  - Official TOPLAP mastodon instance: TOPLAP Social
  - List of livecode communities and projects on mastodon: https://social.toplap.org/@toplap/111703319382988669
  - Other live coding-related and -adjacent instances include: sonomu.club, assemblag.es and post.lurk.org
  - General live coding-related accounts include: @toplap@toplap.org https://social.toplap.org/@algorave
- /r/livecoding - The Live Coding subreddit.
- livecode.demozoo.org - Archive of demoscene related live coding events.
- pastagang - A creative live coding group that anyone can join

Languages

(In Alphabetical Order)

- afterglow - A live-coding lighting controller, building on the Open Lighting Architecture with Clojure and bits of Overtone.

  `Windows | macOS | GNU/Linux  lisp  FLOSS  audio`

- Alda - A music programming language for musicians.

  `Windows | macOS | GNU/Linux  FLOSS  audio`

- Atomiix - A re-implementation and re-invigoration of ixi lang. (inactive)

  `Windows | macOS | GNU/Linux  JavaScript  FLOSS  SuperCollider  audio`

- Bacalao - A live-coding library for SuperCollider inspired by Tidalcycles syntax.

  `Windows | macOS | GNU/Linux  SuperCollider  audio`

- Bitrhythm - A dsl inspired by bitpatterns and tracker notation to make music with javascript, midi, vsts and webaudio.

  `Web | Windows | macOS  javascript  JUCE  audio  midi  CC BY-NC-SA`

- Cane - A small MIDI sequencer DSL designed around vectors and euclidean rhythms.

  `Windows | macOS | GNU/Linux  FLOSS  audio  MIDI  Jack`

- ChucK - Strongly-timed, Concurrent, and On-the-fly Music Programming Language.

  `Windows | macOS | GNU/Linux  FLOSS  audio`

- clive - Live-coding audio in C.

  `GNU/Linux  C  FLOSS  audio`

- Conductive - A set of Haskell libraries for livecoding and real-time music applications. (inactive)

  `Windows | macOS | GNU/Linux  haskell  SuperCollider  FLOSS  audio`

- Coypu - A Pharo Smalltalk package for programming music on-the-fly with support for multiple audio servers

  `Windows | macOS | GNU/Linux  Pharo  midi  Open Sound Control  FLOSS  audio`

- Cyril - A programming language designed for fast prototyping of visualisations and livecoding visuals. (inactive)

  `Windows | macOS | GNU/Linux  openFrameworks  FLOSS  visuals`

- Extempore - (Previously Impromptu) A programming language and runtime environment designed to support 'cyberphysical programming'.

  `Windows | macOS | GNU/Linux  lisp  FLOSS  audio`

- Facet - An open source livecoding environment in NodeJS with a text editor in the browser.

  `Windows | macOS | GNU/Linux  NodeJS  JavaScript  midi  Open Sound Control  audio  synthesis`

- FaustLive - FaustLive is an advanced self-contained prototyping environment for the Faust programming language with an ultra-short edit-compile-run cycle.

  `Windows | macOS | GNU/Linux  faust  llvm  FLOSS  audio  DSP`

- Fluxus - A rapid prototyping, playing and learning environment for 3D graphics, sound and games.

  `Windows | macOS | GNU/Linux | Android | PS2  racket-lang  lisp  FLOSS  visuals`

- FoxDot - Live Coding with Python and SuperCollider. See also the pitchglitch actively maintained fork.

  `Windows | macOS | GNU/Linux  Python  SuperCollider  FLOSS  audio`

- Gibber - Creative coding for JavaScript.

  `Google Chrome | Mozilla Firefox  web  JavaScript  FLOSS  audio  visuals`

- Glicol - A graph-oriented live coding language written in Rust.

  `Google Chrome | Mozilla Firefox  web  Rust  JavaScript  WebAssembly  FLOSS  audio  visuals`

- gwion - 🎵 strongly-timed musical programming language `Windows | macOS | GNU/Linux  FLOSS  audio`

- hydra - Live Coding networked visuals in the browser.

  `Google Chrome | Mozilla Firefox  web  JavaScript  FLOSS  visuals`

- Improviz - An environment for using and abusing primitive shapes and animated textures. (inactive/deprecated)

  `Windows | macOS | GNU/Linux  Haskell  FLOSS  visuals`

- Iannix - A graphical open-source sequencer for digital art

  `Windows | macOS | GNU/Linux  JavaScript  FLOSS  audio  Open Sound Control  visuals`

- ixi lang - An experimental project concerned with the creation of digital musical instruments and environments for generative music. (inactive)

  `Windows | macOS | GNU/Linux  FLOSS  SuperCollider  audio`

- ossia score - An interactive sequencer that allows live programming of intermedia, inter-protocol artworks, through a custom visual language.

  `Windows | macOS | GNU/Linux  C++  FLOSS  audio`

- kilobeat - A collaborative web-based dsp livecoding instrument inspired by bytebeat and Gibber.

  `Google Chrome | Mozilla Firefox  web  JavaScript  FLOSS  audio`

- Krill - Tidal cycle like live coding in NodeJS / Browser. (inactive)

  `Windows | macOS | GNU/Linux  NodeJS  Browser  FLOSS  midi`

- Limut - Live code music and visuals in a web browser.

  `Google Chrome | Mozilla Firefox | Safari  web  JavaScript  FLOSS  audio  visuals`

- line - A tiny command-line midi sequencer and language for live coding.

  `Windows | macOS | GNU/Linux  c++  FLOSS  midi  audio`

- LiveCodeLab - A web-based language and environment for VJs, musicians and graphic artists. Allows for immediate and engaging run-as-you-type prototyping, also used in education. (inactive)

  `Windows | macOS | GNU/Linux  web  FLOSS  visuals  audio`

- LocoMotion - A browser-based language for live coding dance, choreography, and 3D visuals (available in Estuary and as a standalone).

  `Google Chrome | Mozilla Firefox  web  WebGL  JavaScript  FLOSS  visuals`

- Max - A visual programming language for media.

  `Windows | macOS  graphical-language  Commercial  audio  visuals`

- Melrōse - a MIDI producing environment for creating (live) music

  `Windows | macOS | GNU/Linux  golang  web  midi  MIT`

- Mégra.rs - A high-level, LISP-y live coding language implemented in Rust. Prominently features Markov chains.

  `Windows | macOS | GNU/Linux  FLOSS  audio  LISP  rust`

- Mercury | Mercury Playground - A highly abstracted minimal language for the live coding of algorithmic music, designed to make code more accessible for both the performer and the audience. Runs in Max or the Browser.

  `Windows | macOS  Chrome | Firefox  audio  visuals  MaxMSP  JavaScript`

- MicroBlocks - A stack VM-based, small, live and concurrent visual programming language for 32 bit microcontrollers inspired in Scratch and Snap!. It includes libraries for interacting with MIDI devices, as well as libraries for musical abstractions.

  `Windows | macOS | GNU/Linux | Chromebook | Chrome-based browsers  FLOSS  graphical-language  microcontrollers  midi  audio`

- Moonlet - Lua live coding. (inactive)

  `Windows | GNU/Linux  FLOSS  audio`

- Mosaic - An openFrameworks based Visual Patching Creative-Coding Platform.

  `Windows | macOS | GNU/Linux  FLOSS  graphical-language  audio  visuals`

- Motifn - Code music in Javascript that plays in your DAW or browser

  `Google Chrome | Mozilla Firefox  web  JavaScript  MIDI  audio  WebAudio`

- mutate4l - Live coding integrated into Ableton Live's session view.

  `Windows | macOS  Max for Live  C#  FLOSS  audio`

- Negasonic - Live coding in the browser with Ruby.

  `Google Chrome | Mozilla Firefox  web  Ruby  FLOSS  audio`

- ORCΛ - An esoteric live coding environment with two-dimensional syntax.

  `Windows | macOS | GNU/Linux  audio  FLOSS`

- OSCII - OSCII is a web software for drawing and live-coding textmode visuals and sounds.

  `Google Chrome | Mozilla Firefox  web  JavaScript  FLOSS  audio  visuals`

- Overtone - An open source audio environment designed to explore new musical ideas from synthesis and sampling to instrument building, live-coding and collaborative jamming.

  `Windows | macOS | GNU/Linux  SuperCollider  lisp  FLOSS  audio  FLOSS`

- PraxisLive - Hybrid visual IDE for live creative coding.

  `Windows | macOS | GNU/Linux  Java  Processing  GLSL  graphical-language  FLOSS  visuals  audio`

- Pulchra - Live coding language for 3D graphics.

  `Google Chrome | Microsoft Edge | etc.  Web  WebGL  visuals`

- Punctual - Browser-based, zero-installation, audiovisual live coding language (available in Estuary and as a standalone).

  `Google Chrome | Mozilla Firefox  web  WebGL  JavaScript  FLOSS  visuals`

- Pure Data - An open source visual programming language that can be used to process and generate sound, video, 2D/3D graphics, and interface sensors, input devices, and MIDI.

  `Windows | macOS | GNU/Linux  graphical-language  FLOSS  audio  visuals`

- Re:code - Midi and Playback Samples Sequencer using MiniScript and unique MML(Music Macro Language)

  `Windows  MiniScript  Freeware  audio  midi`

- re<urse - A language for generating musical patterns. (inactive)

  `abandoned  Windows | macOS | GNU/Linux  TypeScript  FLOSS  audio`

- Renardo - A FoxDot fork bringing new features and functionalities

  `Windows | macOS | GNU/Linux  Python  FLOSS  audio`

- Repetition.sc - A set of tools to build a SequenceableCollection of Events. (inactive)

  `Windows | macOS | GNU/Linux  SuperCollider  FLOSS  audio`

- Regex - A VCV Rack live coding module generating intricated pitch and rhythm sequences.

  `Windows | macOS | GNU/Linux  VCV  Rack  Modular  FLOSS  audio`

- Sardine A Python based live coding library (MIDI/OSC/SuperDirt).

  `Windows | macOS | GNU/Linux  Python  SuperCollider  FLOSS  audio  midi  Open Sound Control`

- sema - Sema – A Playground for Live Coding Music and Machine Learning. (inactive)

  `Windows | macOS | GNU/Linux  JavaScript  FLOSS  audio`

- serialist - A live coding environment that generates MIDI messages. (inactive)

  `Windows | macOS | GNU/Linux  JavaScript  FLOSS  audio`

- Skoar - A high-level language for coding music with SuperCollider. (inactive)

  `Windows | macOS | GNU/Linux  SuperCollider  Python  FLOSS  audio`

- Sonic Pi - The Live Coding music synth for everyone.

  `Windows | macOS | GNU/Linux  Ruby  SuperCollider  FLOSS  audio`

- Speccy - Live code 8-bit algorave in ClojureScript. (inactive)

  `Windows | macOS | GNU/Linux  web  FLOSS  audio  lisp`

- Steno - Concatenative little metalanguage for live coding.

  `macOS | GNU/Linux  SuperCollider  FLOSS  audio`

- Strudel - Live coding (Tidal-style) algorithmic patterns for the web.

  `Google Chrome | Mozilla Firefox  web  JavaScript  FLOSS  audio`

- SuperCollider - A platform for audio synthesis and algorithmic composition, used by musicians, artists, and researchers working with sound.

  `Windows | macOS | GNU/Linux  FLOSS  audio`

- Syntə - A synthesis based live coding language and environment with integrated sound engine.

  `FreeBSD | GNU/Linux  Go  audio  synthesis  FOSS`

- synth-x - An experimental live coding environment for making music created with modern web technologies. (inactive)

  `Windows | macOS | GNU/Linux  JavaScript  nodejs  audio`

- TEXTOR - Textor is a textmode editor and live-coding environement for visuals and sounds.

  `Google Chrome | Mozilla Firefox  web  JavaScript  FLOSS  audio  visuals`

- TidalCycles - Is a language for Live Coding pattern.

  `Windows | macOS | GNU/Linxux  Haskell  SuperCollider  FLOSS  audio`

- TimeLines - A modular synthesizer for live coding the flow of time. (inactive)

  `Windows | macOS | GNU/Linux  FLOSS  Haskell  SuperCollider  audio`

- tinyspec - A C++ live-coding environment for overlap-add (re)synthesis. (inactive)

  `GNU/Linux  C++  FLOSS  audio`

- Tinalla - Framework Regex based for language parsing written in javascript. (inactive)

  `Windows | macOS | GNU/Linux  FLOSS  Javascript  SuperCollider  audio`

- Topos - Web-based live coding environment inspired by the Monome Teletype.

  `Google Chrome | Mozilla Firefox  FLOSS  Javascript  audio  midi`

- Trane - Browser-based livecoding in Janet

  `Mozilla Firefox | Google Chrome  web  Janet  MIDI  audio  WebAudio  FOSS`

- Tweakable - Visual programming for music, sound and video, used by artists and musicians to make interactive art and music on the web.

  `Google Chrome | Microsoft Edge  PWA  web  JavaScript  MIDI  audio  visuals  WebAudio`

- Vivid - Haskell synth live coding. (inactive)

  `Haskell  SuperCollider  FLOSS  audio`

- Vuo - A realtime visual programming language for interactive media.

  `macOS  visual-language  FLOSS | Commercial  visuals`

- vvvv - A hybrid visual/textual live-programming environment for easy prototyping and development.

  `Windows  visual-language  Freeware | Commercial  visuals`

- WASM-music - A live-coding environment for performance, composition and synthesis in the web-browser.

  `Google Chrome | Mozilla Firefox  web  JavaScript  MIDI  audio  WebAudio`

- Wulfcode - A Midi live-coding environment for performance or composition. (inactive)

  `macOS | Windows* | GNU/Linux*  FLOSS  audio`

- zeroone - Multi-instrumental, polyphonic, "DSLish" API for live coding music in C++.

  `macOS | Windows | GNU/Linux  FLOSS  audio`

- xi - A domain-specific language for Live Coding musical patterns in Ruby. (inactive)

  `Windows | macOS | GNU/Linux  Ruby  SuperCollider  FLOSS  audio`

Libraries and tools

(Also in Alphabetical Order)

- ANSIedad - Generate visuals through a terminal emulator using ANSI escape codes.
- Arcadia - Live coding Clojure in Unity3D.
- Arepl - Live coding Python in VSCode.
- Automationism - A modular synthesiser that runs in the open source programming language Pure Data.
- blink - A library which allows you to edit source code of any Windows C++ project live at runtime.
- Bonzomatic - GLSL and HLSL live coding environment, originally designed for live coding competitions at demoparties.

- CaosBox - A non-common live coding and algorave sequencer written with SuperCollider.
- CHmUsiCK - Library to make ChucK a 'more algorave like' language.
- cl-collider - A SuperCollider client for CommonLisp.
- Cowbells - A Clojure library for musical experimentation and live coding.
- dafxpipe - Software for live coding audio effects and synths.
- diatonic - Diatonic transforms for music making.
- disclojure - A live coding environment for Overtone and Leipzig.
- dublang - A multi-language live coding system with support for multiple languages in a single session.
- essence-of-live-coding - General purpose (console, webservice, audio, graphics) live coding framework in Haskell
- EspGrid - Synchronization and sharing for network music.
- Estuary - Multilingual, zero-installation, extensible-on-the-fly collaborative live coding platform.
- Extramuros - Language-neutral shared-buffer networked live coding system.
- Flok - Web-based P2P collaborative editor for live coding music and graphics.
- Fragment - Collaborative live GLSL coding environment, additive/spectral/granular synthesizer.
- The Force - WebGL live coding performance IDE.
- Gibberwocky - Use Gibber inside Max/MSP and Max4Live.
- Gideros - Lua 2D game engine with live coding capabilities.
- glslViewer - Live GLSL coding render for macOS and Linux.
- hsc3 - A Haskell SuperCollider client.
- HYLOGEN - An embedding of GLSL in Haskell.
- incudine - Music/DSP programming environment for Common Lisp.

- [INSTRUMENT](#) - For live coding music and interfacing musical instruments and controllers in SuperCollider.
- [isobar](#) - A Python library for algorithmic composition by expressing and constructing musical patterns.
- [jet-live](#) - A library which implements c++ hot code reload approach for Linux and macOS.
- [KodeLife](#) - Real-time GPU shader editor, live-code performance tool and graphics prototyping sketchpad.
- [LiCK](#) - Library for ChucK, provides intervals, chords, scales, arpeggiators, patterns, effects, etc.
- [Live Coding Toolkit](#) - A suite of Pure Data abstractions (predefined functions) for musical live coding.
- [live coding yotuube](#) - An experimental web project for creating an audiovisual experience from YouTube videos using code in real time.
- [LiveCore](#) - Library for live coding inside Reaktor Core.
- [LÖVELive 💕](#) - Live coding framework for LÖVE(2D Game Engine).
- [Lua2SC](#) - Lua client for superCollider scsynth and supernova.
- [Motifn](#) - Code music in Javascript that plays in your DAW or browser
- [Petal](#) - A small language on Sonic Pi with similar syntax to TidalCycles.
- [pytebeat](#) - A piece of software for doing livecoding [bytebeat](#) performances.
- [P5LIVE](#) - p5.js collaborative live-coding vj environment!
- [p5-live](#) - Live Coding for p5.js.
- [REPL Mode](#) - This mode adds in a Read-Evaluate-Print-Loop console to Processing 3.0.
- [Republic](#) - SuperCollider library for conversational coding.
- [Ronin](#) - LISP repl for graphics livecoding.
- [s2hs2](#) - An interface between TidalCycles and Processing.
- [Siren](#) - A tracker interface that embodies abstractions where programming is realized as the medium for pattern sequencing in a modular fashion.
- [sonic-pixels](#) - Interactive lighting effects for Sonic Pi.
- [Strudel Flow](#) - An experimental node-based UI for Strudel built with React Flow.
- [Supriya](#) - A Python API for SuperCollider.
- [tidal-autocode](#) - Auto-generates patterns for TidalCycles (requires [Atom](#) editor).
- [tidal-chord](#) - An add-on to the amazing live coding project TidalCycles.
- [TidalFX](#) - A haskell package adding weirder effects to Tidal from non-standard UGens.
- [tidal-maxmsp](#) - Connecting the Tidal live coding environment to MaxMSP.
- [TidalUnity](#) - An interface between TidalCycles and Unity 3D.
- [Tidal-Unity](#) - TidalCycles meets Unity 3D.
- [tida1vm](#) - Another TidalCycles environment inside Docker.
- [tidebox](#) - TidalCycles live coding environment inside a Docker container.
- [total-serialism](#) - A NodeJS package filled with methods designed for algorithmic composition.
- [Troop](#) - Real-time collaborative live coding with FoxDot.
- [VEDA](#) - Real-time GLSL editor for Atom.
- [WavTexture](#) - A Unity example showing how to bake a waveform of an audio clip into a texture and use it in a shader.
- [ZeroBrane Studio](#) - Editor that allows live coding using Lua language.

To Watch

Documentaries and features

- Algorave Generation - Resident Advisor.
- Live coding for Algoraving - Shelly Knotts+Joanne Armitage / workshop supported by YSWN + LCRN.
- PBUP - A patchwork portrait - A documentary about PowerBooks UnPlugged, "the first acoustic computer band".
- Run the code - Documentary in The Guardian.
- Show Us Your Screens - A Documentary about live coding practise by Louis McCallum and Davy Smith.
- Sounds of code - 2019 documentary w/ interviews with live coders.

Performances, talks, etc

- Eulerroom - Over 1000 performances to watch! Also archived on archive.org.
- Algorave - Algorithmic dance culture - Alex McLean.
- Arte Tracks - Live coding and Algorave
- ComputerMusic(now) - Andrew Sorensen.
- Hacking Choreography - A live coded dance performance.
- ICLC YouTube Channel - International Conference on Live Coding.
- Programming as Performance - Sam Aaron.
- Programming in Time - Live Coding for creative performances - Andrew Sorensen.
- SuperCollider Tutorials - A video series by Eli Fieldsteel.
- THIS is computer music - Ge Wang.

To Read

- Live Coding: A User's Manual - Open access book, published by MIT Press
- Manifesto (draft) - Obscurantism is dangerous. Show us your screens.
- Origins of Live Coding - Nick Collins - Durham University.
- Herding Cats: Observing Live Coding in the Wild - Thor Magnusson - Department of Music - University of Sussex.
- Algorave: the live coding movement that makes next-level electronic music - MixMag magazine article about live coding (2017).
- Real DJs Code Live - Wired magazine article about live coding (2006).
- Alex McLean's publications - Conference papers, book chapters and journal articles.
- Live Coding Mailing List Archive - A piece of history.
- TOPLAP Wiki - Videos, articles, and papers.
- Collaboration and learning through live coding - Alan Blackwell, Alex McLean, James Noble, Julian Rohrhuber (2014).
- howto_co34pt_liveCode - Guide on how to live code in SuperCollider based on the performance practice of live coder coï¿¥ï¾¡pt.
- Run the code: is algorave the future of dance music? - Another part of the Guardian's underground music series (2017).

To Dance

- Algorave - Embrace the alien sounds of raves from the past, and introduce alien, futuristic rhythms and beats made through strange, algorithm-aided processes.
- Eulerroom - Algorithmic music streams, mainly live coded and/or algorave but possibly also stranger things.
- Algorave Guidelines - Guidelines to host an Algorave.

Conferences

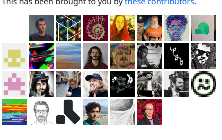
- ICLC - International Conference on Live Coding.
- FARM - Workshop on Functional Art, Music, Modeling, and Design.
- ICLI - International Conference on Live Interfaces.
- NIME - New Interfaces for Musical Expression conference.
- WAC - The Web Audio Conference.
- HLCI - Hybrid Live Coding Interfaces: performance and craft.

Related lists

- Awesome Creative Coding - Creative Coding, Generative Art, Interaction Design, Resources.
- Awesome Audio visualization - A curated list about Audio Visualization.
- Awesome Music - A categorized collection of awesome music libraries, tools, frameworks and software.
- Awesome Live Coding Music - A curated list of awesome Music Live Coding Music environments, libraries and talks.
- Programming Languages Used for Music - An historical list of languages to produce music.
- awesome-musicdsp - A curated list of Oli Larkin's favourite music DSP and audio plug-in frameworks.
- Awesome SuperCollider - A curated list of SuperCollider stuff.
- Awesome TidalCycles - An awesome list about the pattern-based live coding system TidalCycles (or just 'Tidal' for short) and its close relatives

Acknowledgement

This has been brought to you by these contributors.



How to Contribute

- Fork this repository.
- Add the changes you feel appropriate (be it a language, something to read, something to watch, a tool, a conf, etc).
- Create a Pull Request with a description of what you've modified.
- ???
- PROFIT !

Here is a friendly guide of how to proceed.

Code of Conduct

This list follows the Contributor Covenant Code of Conduct v1.4.0, available here.

> In the interest of fostering an open and welcoming environment, we as contributors and maintainers pledge to making participation in our project and our community a harassment-free experience for everyone, regardless of age, body size, disability, ethnicity, gender identity and expression, level of experience, nationality, personal appearance, race, religion, or sexual identity and orientation.

TL;DR: *Be nice to each other*.

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