

# **Workshop 02**

## **What is Live Coding?**

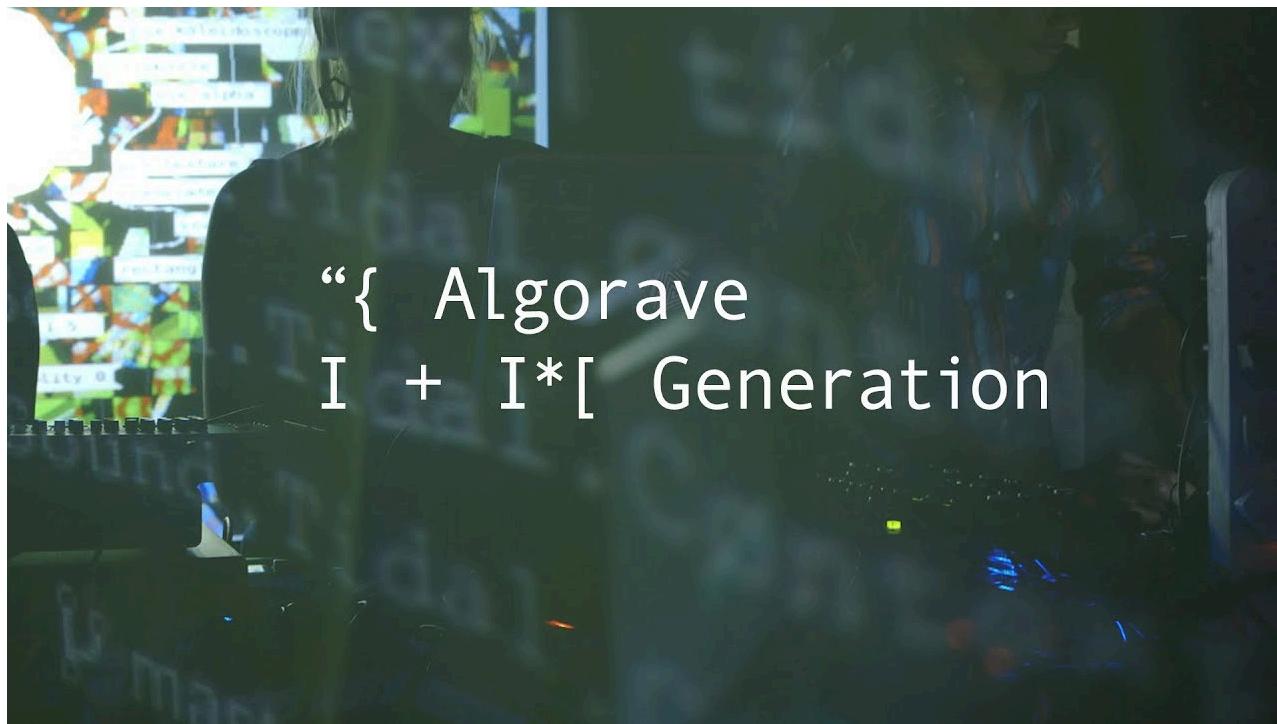
Atsushi Tadokoro

# Introduction

# Introduction

Algorave Generation | Resident Advisor

<https://youtu.be/S2EZqikClfY>



# **Live coding**

# **Live coding**

## **Various Terms**

- Live programming
- Interactive programming
- On-the-fly programming
- Performative programming
- ascii music...

## **Live coding**

This time, we will focus on the “live” aspect  
and use the term **Live coding**

First, let’s consider the meaning of “live”

# **Live - Live Editing of Code**

## Live - Live Editing of Code

Interpreter-based programming languages

- LISP (1962)
- LOGO (1965) - Turtle graphics

# Turtle graphics

THE TERRAPIN LOGO LANGUAGE  
WRITTEN BY L. KLOTZ, P. SOBALVARRO  
AND S. HAIN UNDER THE SUPERVISION  
OF H. ABELSON.  
COPYRIGHT (C) 1981 MIT  
VERSION 1.0  
WELCOME TO LOGO  
?≡

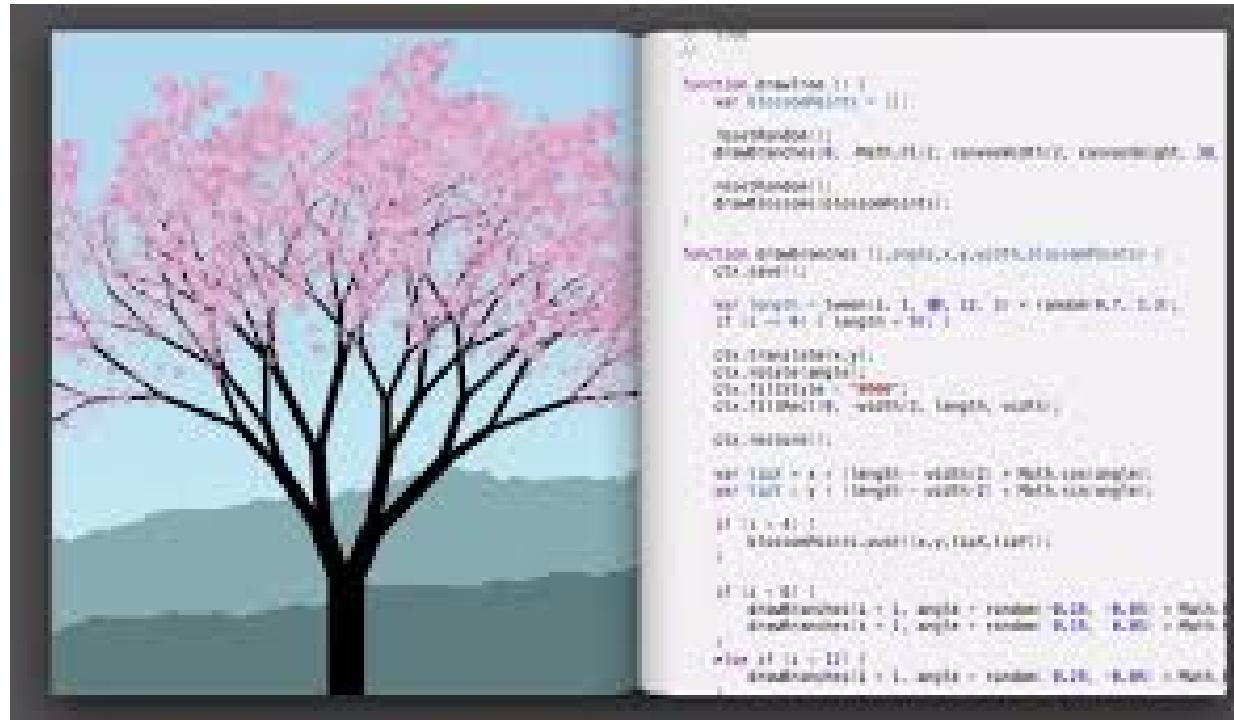


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# Live - Live Editing of Code

New trends in programming development environments

Bret Victor - Inventing on Principle



# Live - Live Editing of Code

## p5.js editor



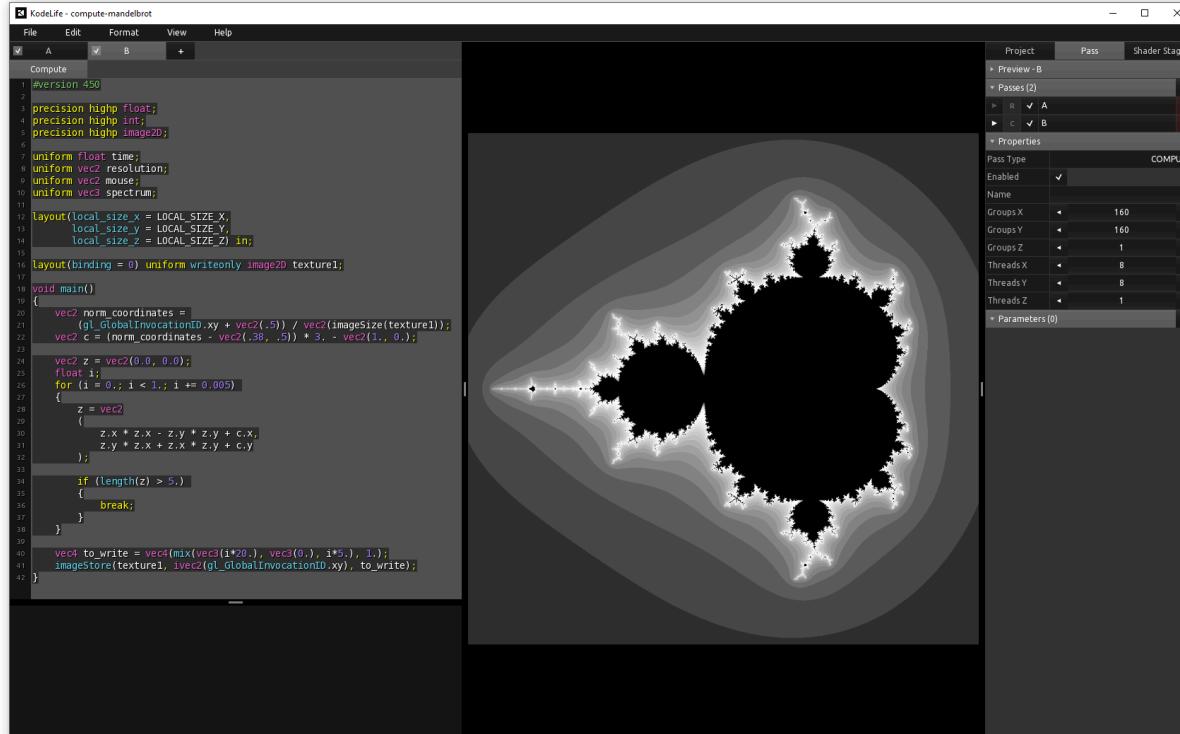
The screenshot shows the p5.js Web Editor interface. On the left, the code editor displays a script named "sketch.js" with the following content:

```
1 function setup() {
2   createCanvas(600, 400);
3 }
4
5 function draw() {
6   background(0);
7   stroke(0);
8   strokeWeight(4);
9   textSize(64);
10  textAlign(CENTER, CENTER);
11  translate(width/2, height/2);
12  for (let a = 0; a < 60; a++) {
13    fill(a == 59 ? "white": "#ed225d");
14    rotate(TWO_PI/60);
15    text("p5.js Web Editor", 0, 0);
16  }
17}
18
19}
```

The right side of the interface features a "Preview" window displaying a circular fractal pattern composed of many smaller circles, with the text "p5.js Web Editor" centered in the center.

# Live - Live Editing of Code

## Kodelife



# **Live - Coding as a Live Performance**

## **Live - Coding as a Live Performance**

- Another meaning of “live”
  - Coding as a live performance
- Various attempts have been made in live music performance
- “Live electronic music”

## **Live - Coding as a Live Performance**

1990's Laptronica (Live electronic music)

Farmers Manual

# Live - Coding as a Live Performance

This trend continues today

Example: Mark Fell - Mark FELL\_Concert PRESENCES électronique 2014

<https://youtu.be/s15wdk2xQik>



## **Live - Coding as a Live Performance**

**However, there was a problem...**

What are they actually doing? Are they really performing?

**Compare two videos**

Kraftwerk - Pocket Calculator

<https://youtu.be/UZiTr4hwHXI?si=ZkCJfKEeqSVAL-jn>

[https://www.youtube.com/watch?v=K\\_pxAVULNEw](https://www.youtube.com/watch?v=K_pxAVULNEw)

## **Live - Coding as a Live Performance**

**“Show Us Your Screens”**

A key concept in live coding

<https://vimeo.com/20241649?share=copy>

## **Live - Coding as a Live Performance**

**Slub (2000) : Adrian Ward, Alex McLean, Dave Griffith**

Started experimenting with projecting the programming process onto a screen during performances

<http://slub.org/>

## **Live - Coding as a Live Performance**

SLUB Live Coding performance Aarhus Kunsthall

Alex McLean, Dave Griffiths

<https://youtu.be/Z-8DX7g2zEc>

# Live - Coding as a Live Performance

## Alex McLean (Yaxu) live on DOMMUNE

Alex McLean's performance at DOMMUNE during his 2018 visit to Japan

<https://www.youtube.com/watch?v=dIpzU71LAQQ>



## **Live - Coding as a Live Performance**

NIME 2016 ‘Barely a Piano’ by Andrew Sorensen

<https://vimeo.com/176422744>

## **Live - Coding as a Live Performance**

Renick Bell, live @ Tama Art University

Nov. 27 2013, Tokyo Japan

<https://youtu.be/BvXUK6FXPu8>

# The Live Coding Community

- TOPLAP (2004) : The live coding community
- <https://toplap.org/>



## Algorave

- Algorave = algorithm + rave
- Parties centered around performances using live coding
- <https://algorave.com/>

# TOPLAP Manifesto

<http://toplap.org/wiki/ManifestoDraft>

- Give us access to the performer's mind, to the whole human instrument.
- Obscurantism is dangerous. **Show us your screens.**
- Programs are instruments that can change themselves
- The program is to be transcended - Artificial language is the way.
- Code should be seen as well as heard, underlying algorithms viewed as well as their visual outcome.
- Live coding is not about tools. Algorithms are thoughts. Chainsaws are tools.  
That's why algorithms are sometimes harder to notice than chainsaws.

**Now, let's actually experience live coding!**