

Workshop 03

What is Live Coding?

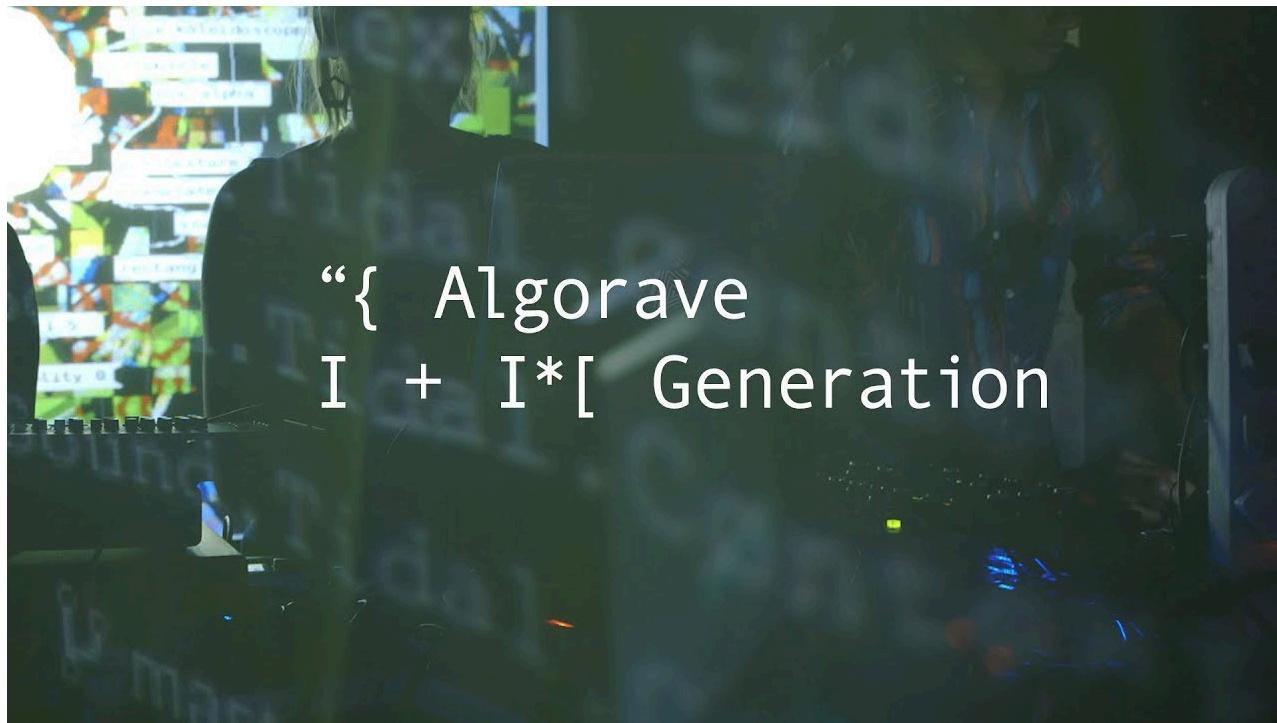
Atsushi Tadokoro

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
?≡

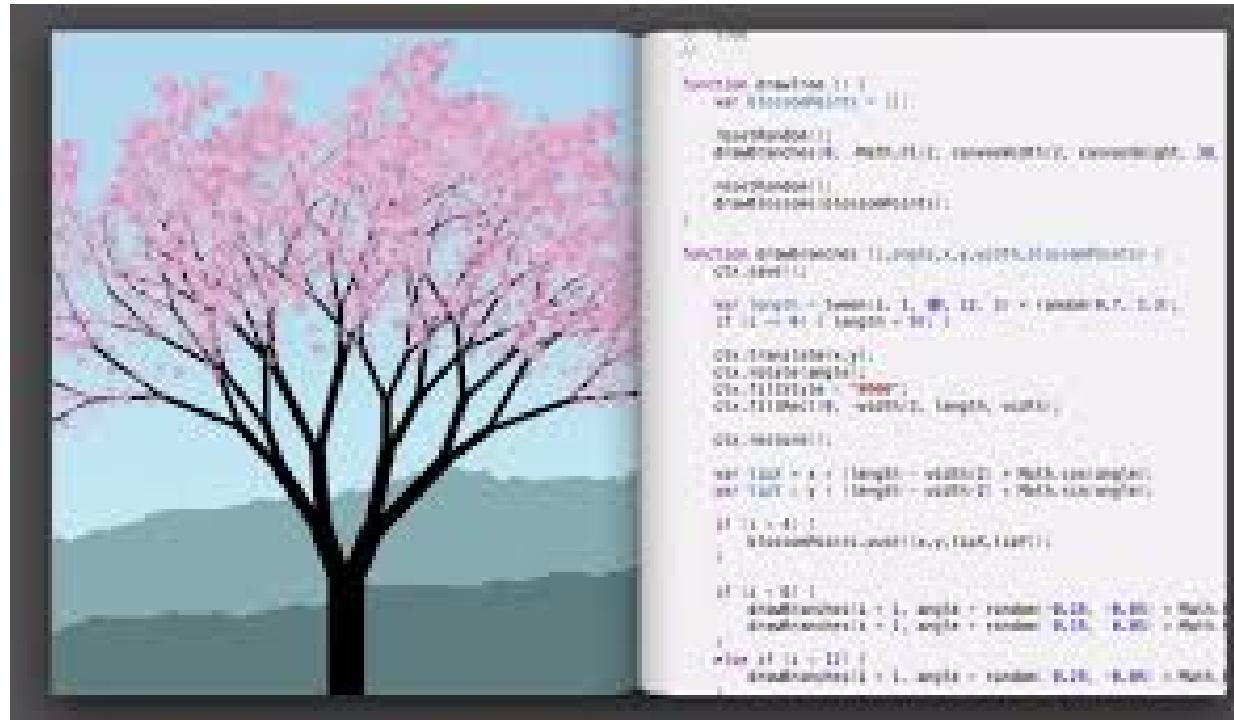


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Live - Live Editing of Code

New trends in programming development environments

Bret Victor - Inventing on Principle



Live - Live Editing of Code

p5.js editor



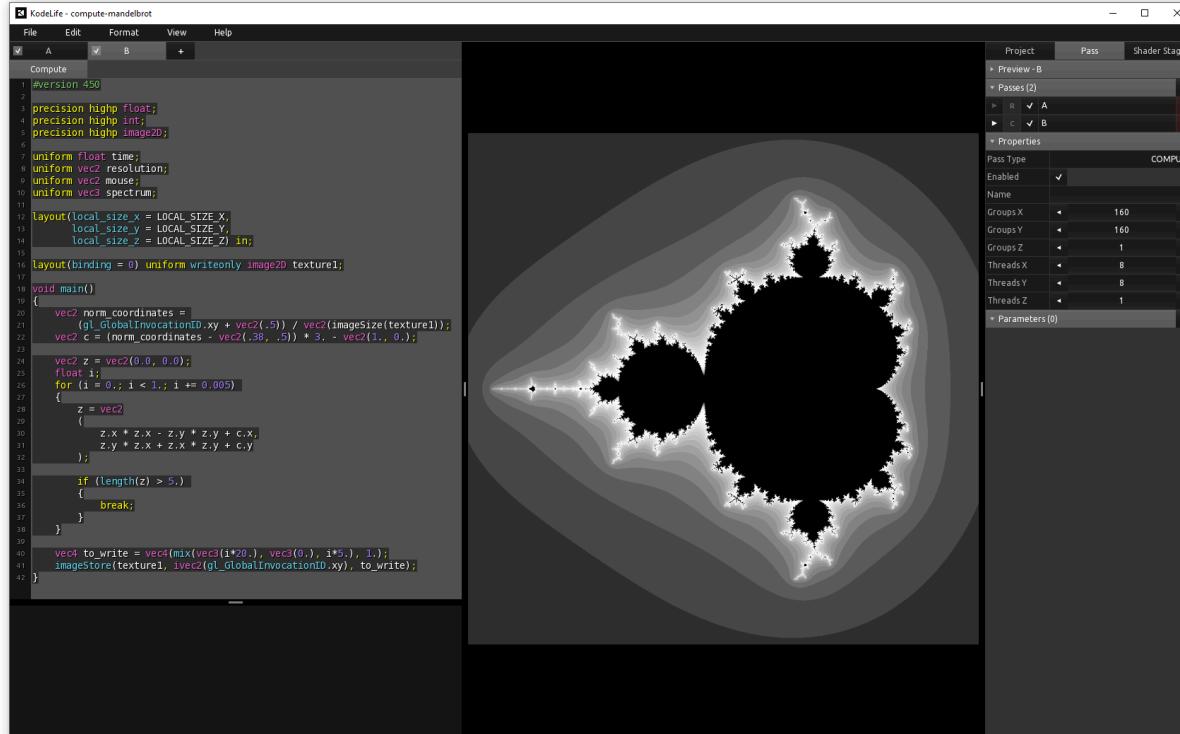
The screenshot shows the p5.js Web Editor interface. On the left, the code editor displays a script named "sketch.js" with the following content:

```
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

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!