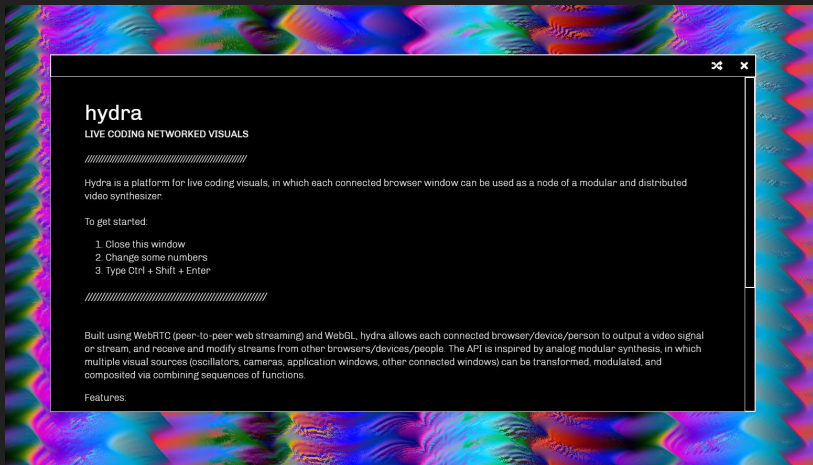# Hydra - workshop

by Flor de Fuego

Basics for working with code and [creative] programming.

- stuff always breaks down
- there are no right solutions
- no one single way of doing things
- patience and perseverance
- things are sometimes built with little "frankensteins".
- think of an idea, sketch it out (on paper if necessary)
- look for the right question(s) to investigate
- distance yourself and come back
- learning is a one way road

Hydra Synth

live coding networked visuals (visuales de live coding en red)

Hydra is live code-able video synth and coding environment that runs directly in the browser. It is free and open-source and made for beginners and experts alike.
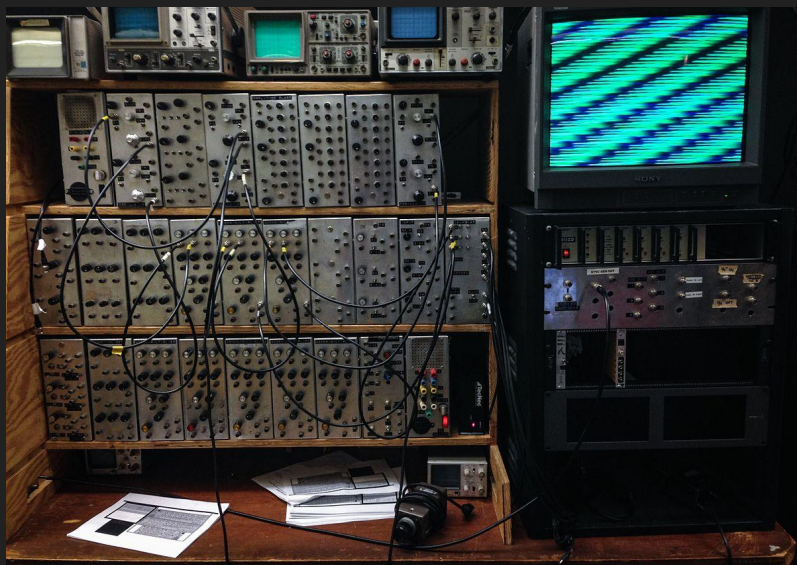
Created by Olivia Jack

More projects and repository

https://ojack.xyz/

Hydra

https://hydra.ojack.xyz/

inspired by
modular analog synthesizers

we interconnect functions to generate different types of images.

In this way what we do is to add or subtract pixels, to generate changes in contrast, brightness, hue, saturation, color and even digital feedback.

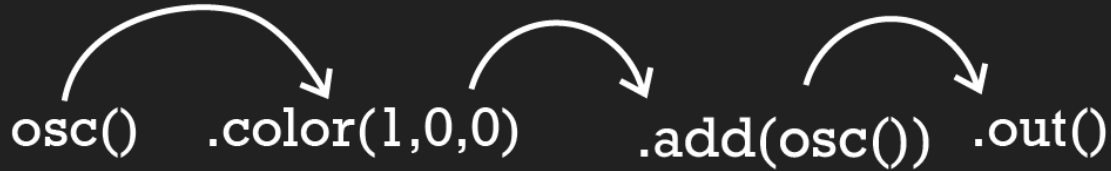Dan Sandin - The image processor

https://www.youtube.com/watch?v=u7hi9cXNrgU

interconnect functions

osc() .color(1,0,0) .out()

osc() .color(1,0,0) .add(osc()) .out()

osc() .add(osc()) .color(1,0,0) .out()

It uses JavaScript as its main language, it can be linked with P5 (JS library for Processing) and shaders, because basically what is happening underneath the software is that the program runs shaders (low level programming, WEBGL).
Hydra can also insert webcams, videos, images and internet pages, it allows to control parameters via MIDI or OSC.

Functions

- **sources**

  noise | voronoi | osc | shape |
  gradient | src | solid

- **geometry**

  rotate | scale | pixelate | repeat | repeatX | repeatY |
  kaleid| scrollX | scrollY

- **color**

  posterize | shift | invert | contrast | brightness |
  luma | thresh | color | saturate | hue | colorama

- **blending modes**

  add | layer | blend | mult | diff | mask

- **modulate**

  modulateRepeat
  modulateRepeatX
  modulateRepeatY
  modulateKaleid
  modulateScrollX
  modulateScrollY
  modulate
  modulateScale
  modulatePixelate
  modulateRotate
  modulateHue

Reference material:
https://hydra-blend-manual.glitch.me/
https://hydra-webcam.glitch.me/
https://ccfest-2021-glitchme.glitch.me/

Host images
https://imgbb.com/

Some possibilities of creation with Hydra

interactive websites that combines other libraries like p5js

other libraries with sound like Tone.js

live performances

custom and hackable websites

videoclips

printings or more experimental projects

collaborative visuals (and even remotely)

fulldome live coding

and so on…

groups/forum

- Discord

-Facebook: Hydra synth