

SOLO-PLAY

GAME MUSIC COMPOSER

Interactive Music

CREATIVE TRACK EMPHASIS



D A Y : D N E

Background <=> Mechanics
Adaptations
Synthesis

ONE DAY

GAME MUSIC COMPOSER

GAME MUSIC BACKGROUND 10-20 MINUTES

SHORT BREAK 10 MINUTES

CONCEPTS | FORM AND STRUCTURE 10-15 MINUTES

DEVELOPING SKILLS PRACTICE 50 MINUTES

SHORT BREAK 10 MINUTES

MEETING WITH DEVELOPER 15 MINUTES

PROJECT PLANNING MEETING WITH INSTRUCTOR 10-15 MINUTES

PRACTICE EXERCISE IN SKILLS WITH SLIGHT VARIATIONS 30
MINUTES

REVIEW CONCEPTS | HOMEWORK 10-20 MINUTES

“Music is the universal language of mankind.”

—HENRY WADSWORTH LONGFELLOW
AMERICAN LYRICAL POET

WHAT IS INTERACTIVE MUSIC?

HOW DOES THAT RELATE TO GAME MECHANICS?

[HTTPS://WWW.BARRYVAN.COM.AU/DEMOS/GENERATIVE.HTML](https://www.barryvan.com.au/demos/generative.html)

[HTTP://IANBEAN.COM/TONEWARP/INDEX.HTML](http://ianbean.com/tonewarp/index.html)

YOU ARE AN ARTIST

GOOD THEFT	BAD THEFT
HONOR	DEGRADE
STUDY	SKIM
STEAL FROM MANY	STEAL FROM ONE
CREDIT	PLAGIARIZE
TRANSFORM	IMITATE
REMIX	RIP OFF

STEAL LIKE AN ARTIST.

Know what you like
and adapt things to who you are
that it becomes your signature.

COLLABORATE WITH A GAME DEVELOPER

NEWS

LEARN

DOWNLOAD

EXAMPLES

COMMUNITY

PLUGINS



Desktop and Mobile HTML5 game framework

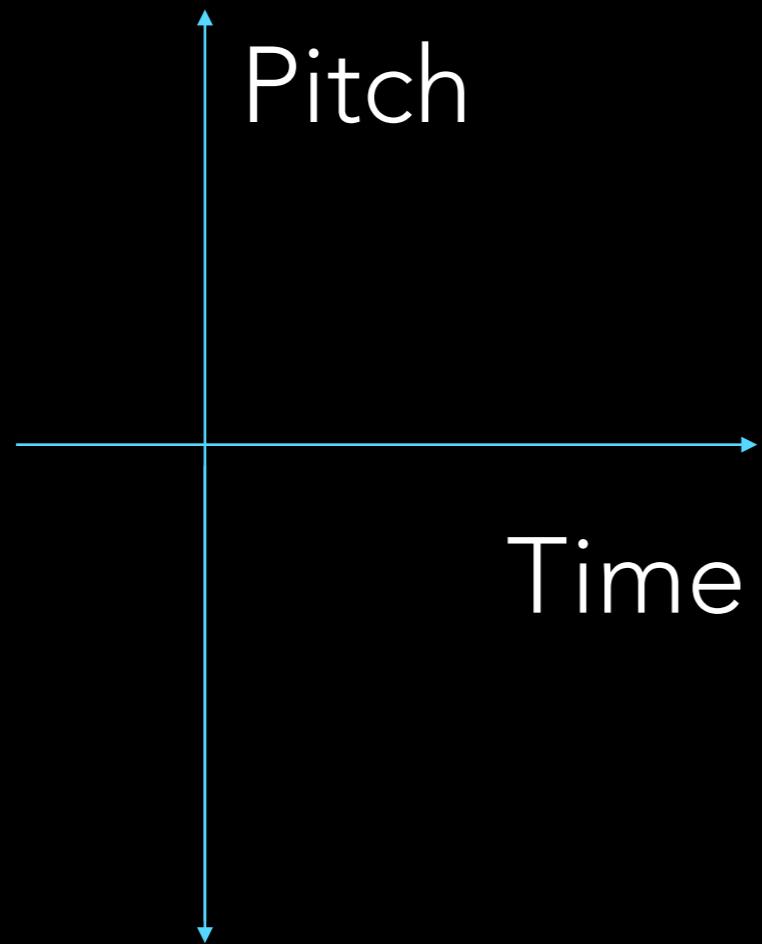
A fast, free and fun open source
framework for Canvas and WebGL
powered browser games.

DOWNLOAD & GET STARTED
Download or Fork via Github

2.4.7



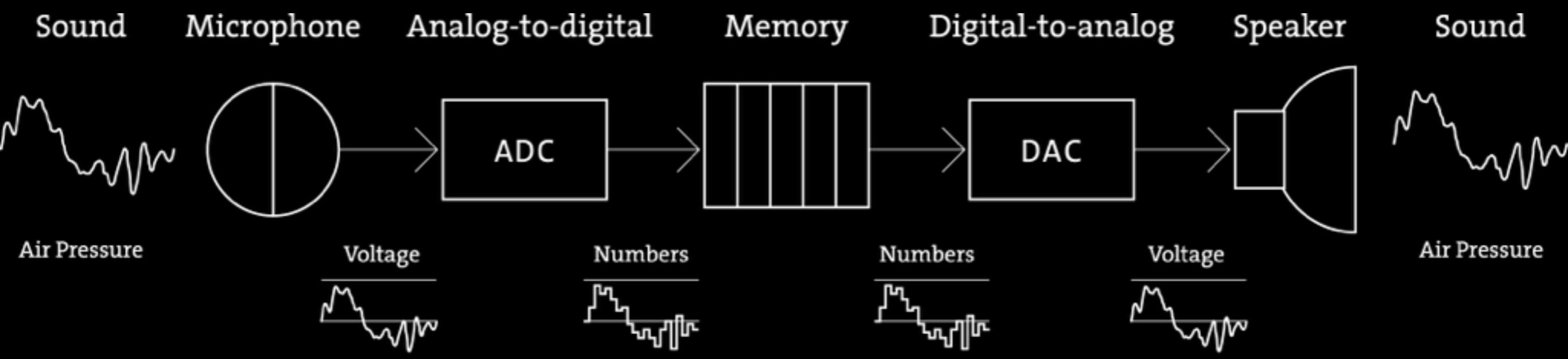
AXES OF MELODY



12 PITCHES

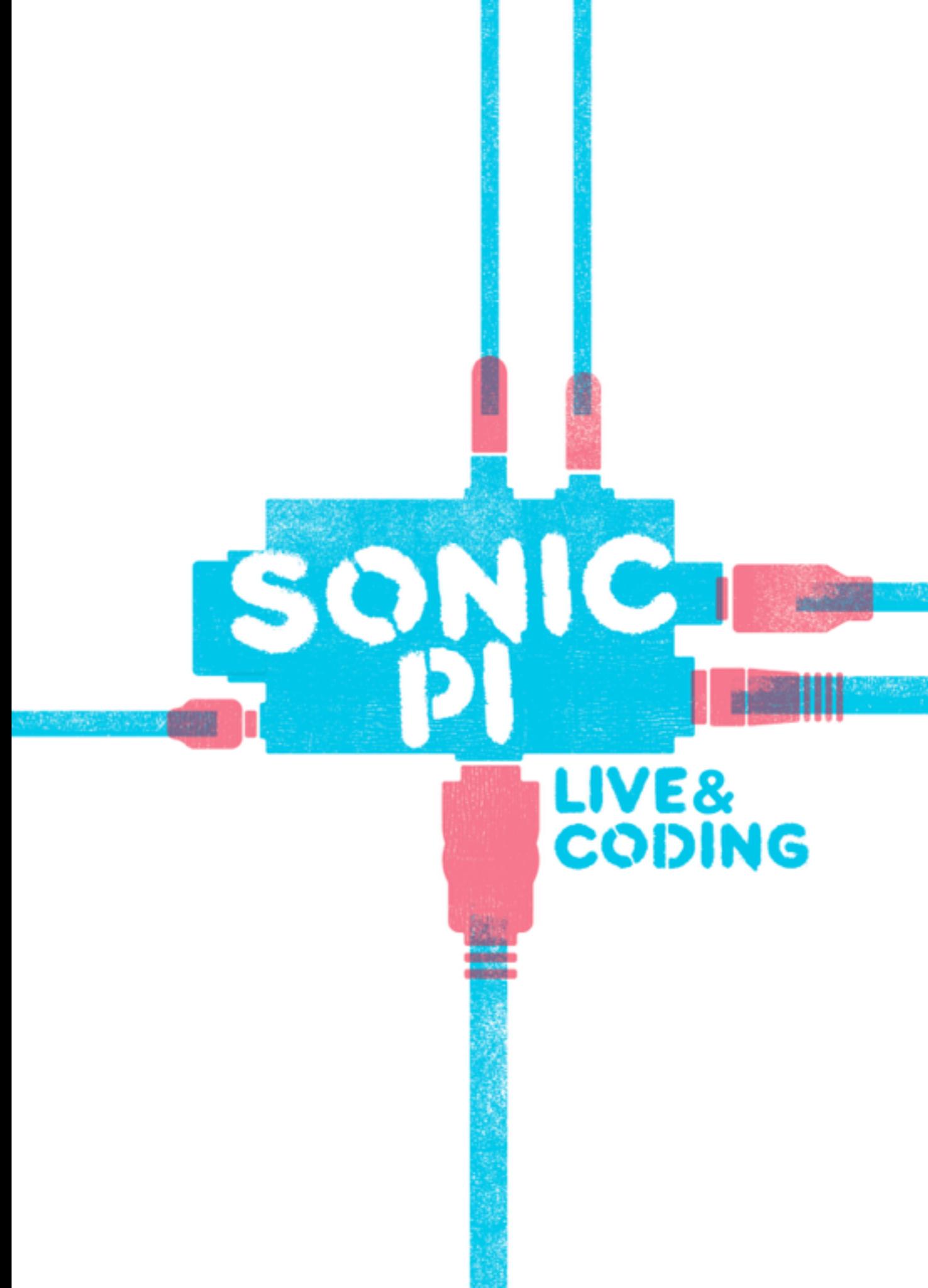


SOUND TRANSLATION



CHALLENGE
SONIC-PI

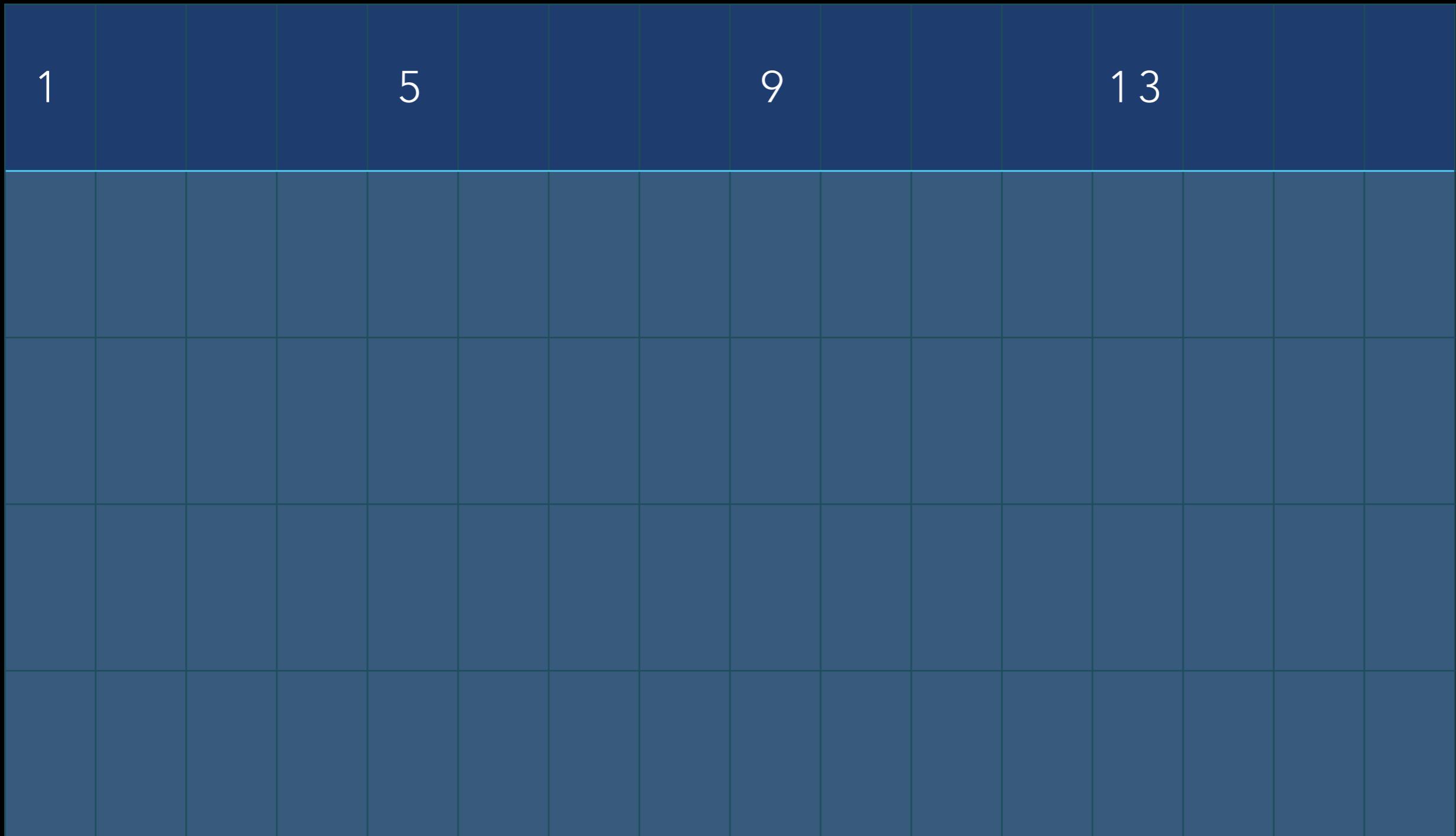
[HTTP://SONIC-PI.NET/](http://sonic-pi.net/)



EXERCISE

- Translate the 12 pitches (Piano keys) into a sequencer.
- Pick a few octaves and convert them to MIDI note numbers.

Sequences



<http://gametabs.net>

<http://www.free-midi.org/>

SONIC-PI

MUST NAME THIS

Run ▶ Stop ■ Save ❤ Rec ○

```
1 live_loop :CEG do
2   play :C
3   sleep 0.5
4   play :E
5   sleep 1
6   play :G
7   sleep 0.5
8 end
```

code

BLOCK

Remember the colors

```

1 #Buzzy pluck 1 105bpm LOOPX2
2 # 8@13
3 E3 0.25
4 G3 0.25
5 E3 0.25
6 G3 0.25
7 # 9@14
8 G3 0.25
9 B3 0.25
10 G3 0.25
11 B3 0.25
12 # 10@15
13 E3 0.25
14 A3 0.25
15 E3 0.25
16 A3 0.25
17 # 11@16
18 E3 0.25
19 G3 0.25
20 E3 0.25
21 G3 0.25
22 # 12@17
23 E3 0.25
24 G3 0.25
25 E3 0.25
26 G3 0.25
27 # 27-30
28 E3 0.25
29 G3 0.25
30 E3 0.25
31 G3 0.25

```

```

1 #guitars aka buzzypluck1-3
2 use_bpm 65
3 ##| live_loop :guitars do
4 in_thread(name: :guitar1) do
5   loop do
6     use_synth :dtri
7     #start at measure 8
8     riffw1 = (ring :r)
9     8.times do
10      play riffw1.tick
11      sleep 1
12    end
13    riff = (ring :e3, :g3, :e3, :g3, :g3, :b3, :g3, :b3, :e3, :a3, :e3, :a3)
14    play riff.tick, release: 0.5, cutoff: 80
15    sleep 0.25
16    riff1 = (ring :e3, :g3, :e3, :g3)
17    play riff1.tick, release: 0.25, cutoff: 80
18    sleep 0.25
19    riff2 = (ring :r)
20    10.times do
21      play riff2.tick
22      sleep 1
23    end
24    8.times do
25      play_pattern_timed [52,55], [0.25], cutoff: 80
26    end
27  end
28 end
29 end
30 end
31 end

```

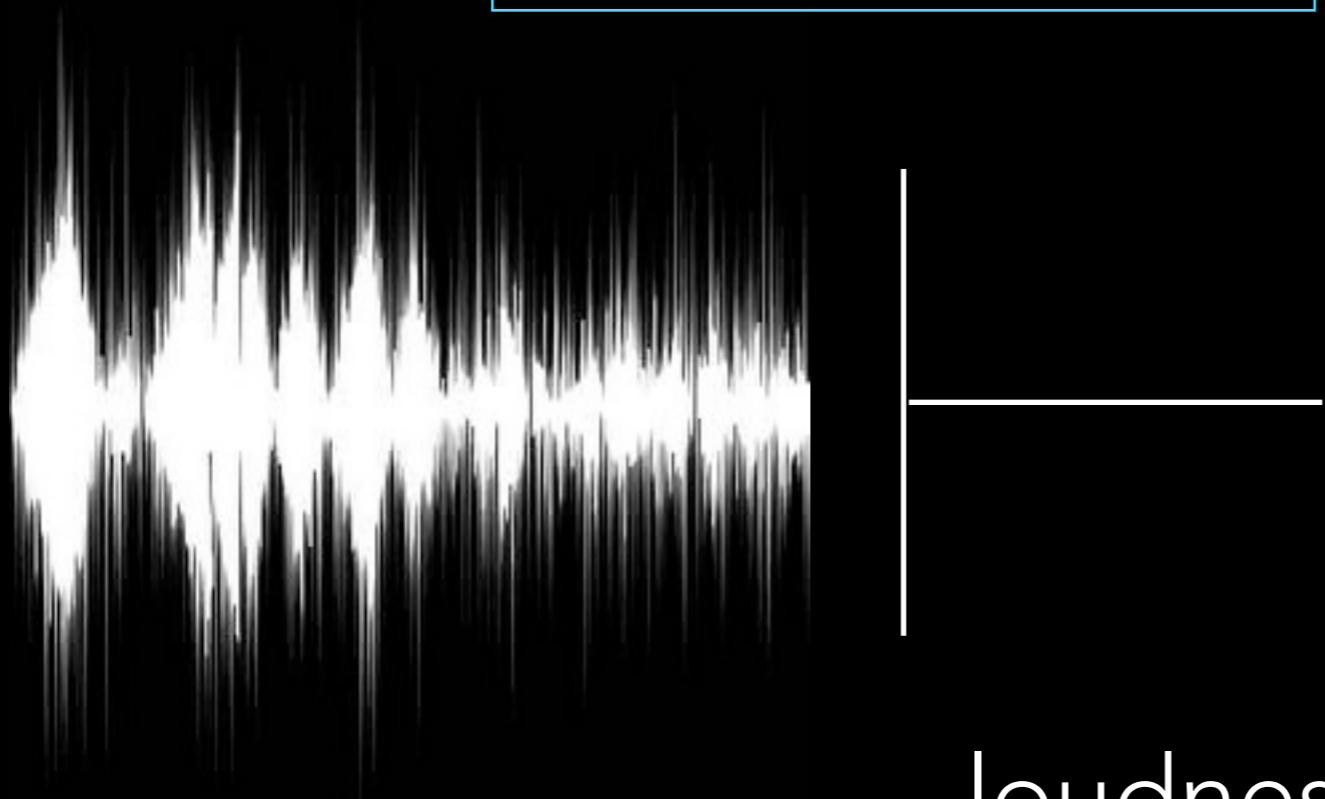
SHORTER →

THE COMPUTER SEES THE COMPLETE DIGITAL SOUND TO THE TYPE OF ROOM YOU ARE IN.



Attack, Decay, Sustain, Release
ADSR

AMPLITUDE : "AMP"



loudness of a sound

In Sonic-Pi "amp: 0.5"

0-1 but best 0-0.5 to avoid compression

Software Developer Community: Share codes



<https://github.com/asis/GameProductionProgram>

METER
METRIC CYCLES
TIME SIGNATURES
COMPOUND TIME SIGNATURES
DEVELOPING AND COMPOSING RHYTHMS
RHYTHMIC MOTIVES
TRIPLETS
RHYTHMIC MOTIVES
TRIPLETS
SHUFFLE RHYTHM
CROSS RHYTHM (=HEMIOLA)



THE METRONOME IS
YOUR BEST FRIEND

Major Scales

C Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

D₇ Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 3 1 2 3 4 1 2 1 4 3 2 1 3.

D Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

E₇ Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 1 2 3 4 1 2 3 2 1 4 3 2 1.

E Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

F Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 4 1 2 3 4 3 2 1 4 3 2.

F₇ Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 3 4 1 2 3 1 2 1 3 2 1 4 3.

G Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

A₇ Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 3 1 2 3 1 2 3 2 1 3 2 1 3.

A Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

B₇ Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 1 2 3 4 1 2 3 2 1 3 2 1.

B Major



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

Harmonic Minor Scales

A Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

B Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

C₇ Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 3 1 2 3 1 2 3 2 1 3 2 1 3.

D Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

E Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

F₇ Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 3 1 2 3 1 2 3 2 1 3 2 1 3.

G Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 1 2 3 1 2 3 4 5 4 3 2 1 3 2.

A₇ Harmonic Minor



A musical staff in G clef with note heads and stems. Below it is a numbered finger guide: 2 3 1 2 3 1 2 3 2 1 3 2 1 2.

Triads in the Chromatic Scale (Harmonic Form: Key of C)

A musical staff in G clef showing twelve triads in harmonic form. The notes are: C, Cm, D♭, D♭+, Do, Dm, D, E♭, E♭+, Em, Fm, F, F♯. The chords are: C (C-E-G), Cm (C-E-B♭), D♭ (D♭-F-A♭), D♭+ (D♭-F-B♭), Do (D-E-G), Dm (D-E-B), D (D-F-A), E♭ (E♭-G-B♭), E♭+ (E♭-G-C♯), Em (E♭-G-C), Fm (F-A-C), F (F-A-D), F♯ (F-A-C♯).

Seventh Chords in the Chromatic Scale (Harmonic Form: Key of C)

A musical staff in G clef showing twelve seventh chords in harmonic form. The notes are: F♯, Go, Gm, G, A♭, Ao, A♭+, A, B♭m, B♭, Bo, Bm. The chords are: F♯ (F♯-A-C♯), Go (G-B-D), Gm (G-B-D), G (G-B-E), A♭ (A♭-C-E♭), Ao (A♭-C-E), A♭+ (A♭-C-E-B♭), A (A-C-E), B♭m (B♭-D-F), B♭ (B♭-D-F), Bo (B♭-D-F), Bm (B♭-D-F).

A second musical staff in G clef showing twelve seventh chords in harmonic form. The notes are: C7, Cmaj7, Cm7, Cm/maj7, D♭maj7, D♭+maj7, Do7, Dm7, D7, E♭7, E♭maj7, E♭+dim7, E♭+maj7. The chords are: C7 (C-E-G), Cmaj7 (C-E-G), Cm7 (C-E-G), Cm/maj7 (C-E-G), D♭maj7 (D♭-F-A♭), D♭+maj7 (D♭-F-B♭), Do7 (D-G-B), Dm7 (D-G-B), D7 (D-G-B), E♭7 (E♭-G-B♭), E♭maj7 (E♭-G-B), E♭+dim7 (E♭-G-B), E♭+maj7 (E♭-G-B).

A third musical staff in G clef showing twelve seventh chords in harmonic form. The notes are: Eodim7, Eo7, Em/dim7, Em7, Fm7, Fm/maj7, F7, Fmaj7, F♯/o/dim7, F♯/o7, Go7, Gm7, Gm/maj7, G7. The chords are: Eodim7 (E♭-G-B), Eo7 (E♭-G-B), Em/dim7 (E♭-G-B), Em7 (E♭-G-B), Fm7 (F-A-C), Fm/maj7 (F-A-C), F7 (F-A-C), Fmaj7 (F-A-C), F♯/o/dim7 (F♯-A-C), F♯/o7 (F♯-A-C), Go7 (G-B-D), Gm7 (G-B-D), Gm/maj7 (G-B-D), G7 (G-B-D).

A fourth musical staff in G clef showing twelve seventh chords in harmonic form. The notes are: Gmaj7, A♭maj7, A♭+maj7, Ao7, Am7, B♭m7, B♭m/maj7, B7, B7, Bo7, Bm/dim7, Bm7. The chords are: Gmaj7 (G-B-D), A♭maj7 (A♭-C-E♭), A♭+maj7 (A♭-C-E-B♭), Ao7 (A♭-C-E), Am7 (A♭-C-E), B♭m7 (B♭-D-F), B♭m/maj7 (B♭-D-F), B7 (B-D-F), B7 (B-D-F), Bo7 (B-D-F), Bm/dim7 (B-D-F), Bm7 (B-D-F).

Quick Review

MIDI (Musical Instrument Digital Interface) -MIDI carries event messages that specify notation, pitch and velocity, control signals for parameters such as volume, vibrato, audio panning, cues, and clock signals that set and synchronize tempo between multiple devices.

It's a digital file that carries all the tonal arrangement in sequence to play your musical composition with the file format ".mid".

<https://en.wikipedia.org/wiki/MIDI>

sharps - notated as "s" after the note
"Fs" or "fs"

b flats - notated as "b" after the note
"Gb" or "gb"

I LOVE IT WHEN YOU GOT QUESTIONS, IT TELLS ME YOUR THINKING ABOUT THIS!

asis@devleague.com



Search GitHub



Aisis
asis



HIFashionTech



Honolulu, HI

<https://github.com/asis>

Your Sonic PI files
“Flight”
measure 1.rb
measure 2.rb
measure 3.rb
measure 4.rb
will be uploaded
send me a request
so I can add you

KEEP COMMUNICATING VIA GITHUB

LIVECODE IS
THE NEW THING
UNDERGROUND MUSIC

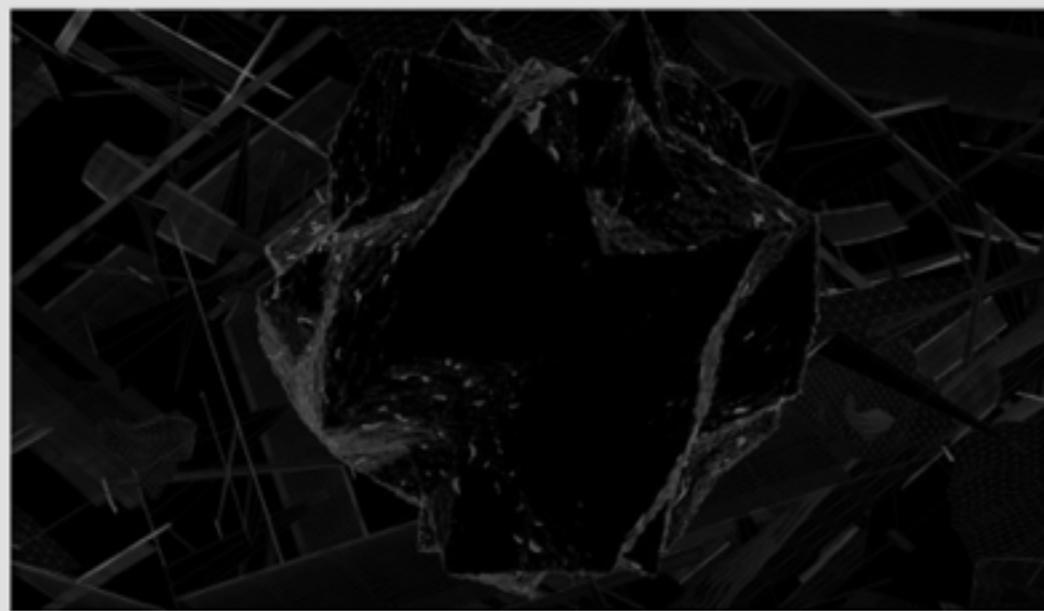
“Hacking meets clubbing...”

<https://en.wikipedia.org/wiki/Algorave>



HOME / EVENTS / ARTISTS / FORUM / INFO /

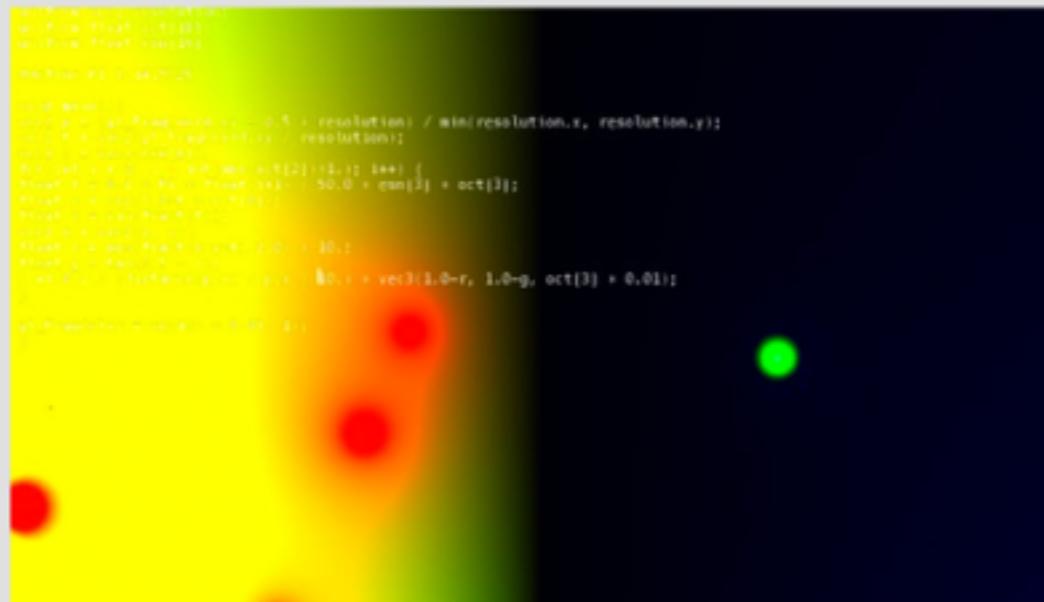
GALLERY



EXPLORING THE SUBTERRANEAN

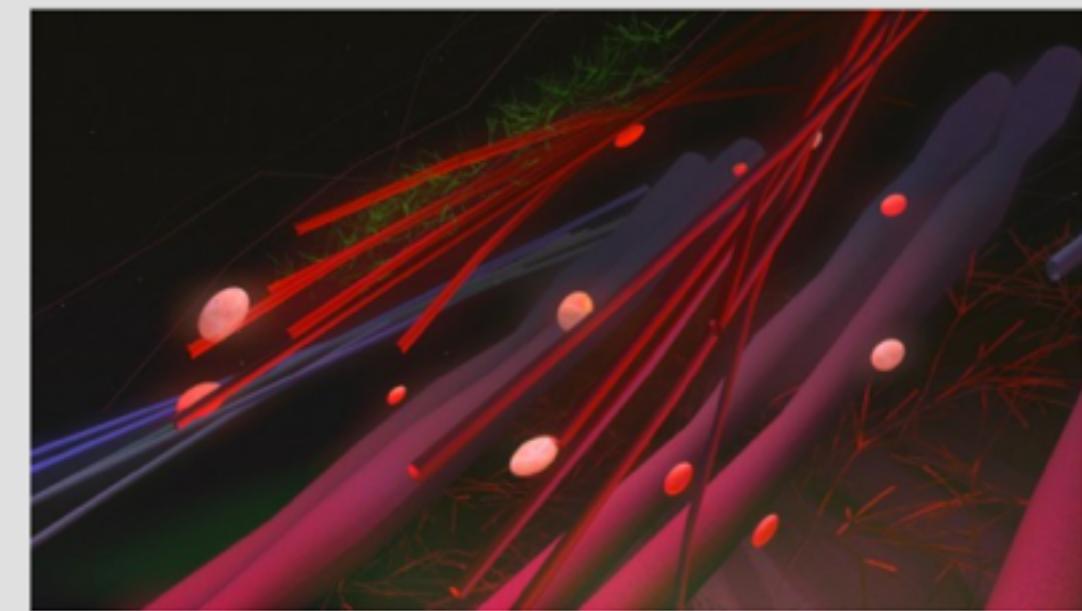
Studio Naam

The design of the visual identity of Coded Matter(s) 8 and the FIBER Festival was created by our amazing partners ...



ALGORAVE

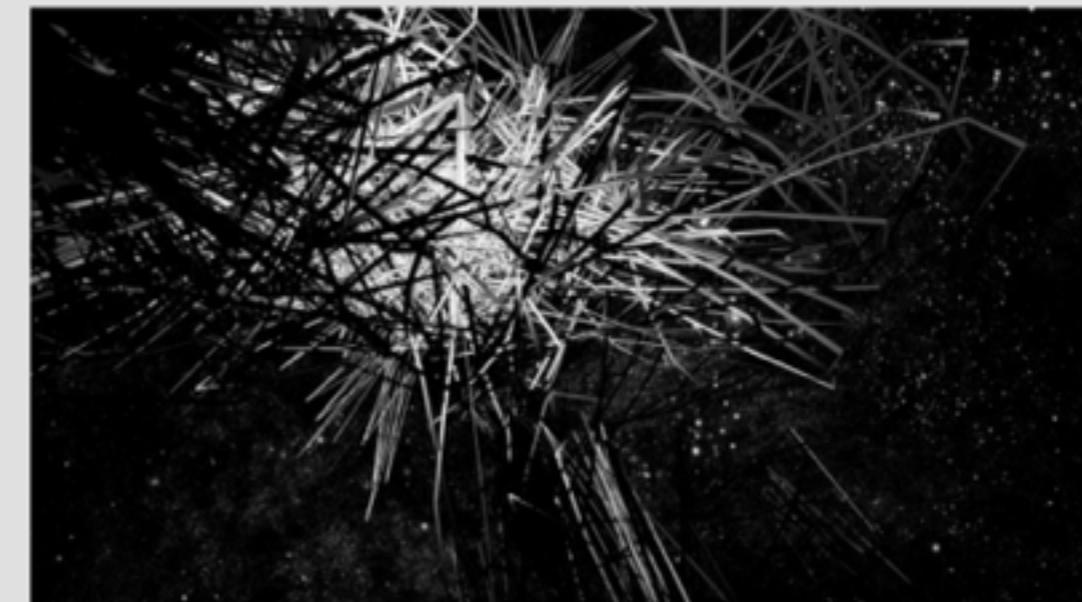
Chris Kiefer



EXTENDED SENSES

Josué Ibáñez

For the seventh edition of Coded Matter(s) we collaborated with Mexican interaction designer Josué Ibáñez. We're honoured to present the ...



CODING THE CLUB

Simon Geilfus

DAY 1 HOMEWORK

- Listen to more of the game music midi.
- What are your favourite melodic sequence, rhythm and tempo?
- Transcribe them onto Sonic-PI then upload onto Github.
 - <https://github.com/asis/GameProductionProgram>
- Look at your peers' codes.
- Explain to your parent(s) how music can be coded.
 - Code a tune for your parent.

NEXT WEEK

- Game Music History
- Phaser Game Mechanics
- Sound
- Meet with your Game Developer
- Bring your instrument
- Notebook



I had so much fun instructing and sharing with you.

See you next week!