



fractaL

[A TOOL FOR DIGITAL LITERACY AND ECOLOGICAL THINKING]

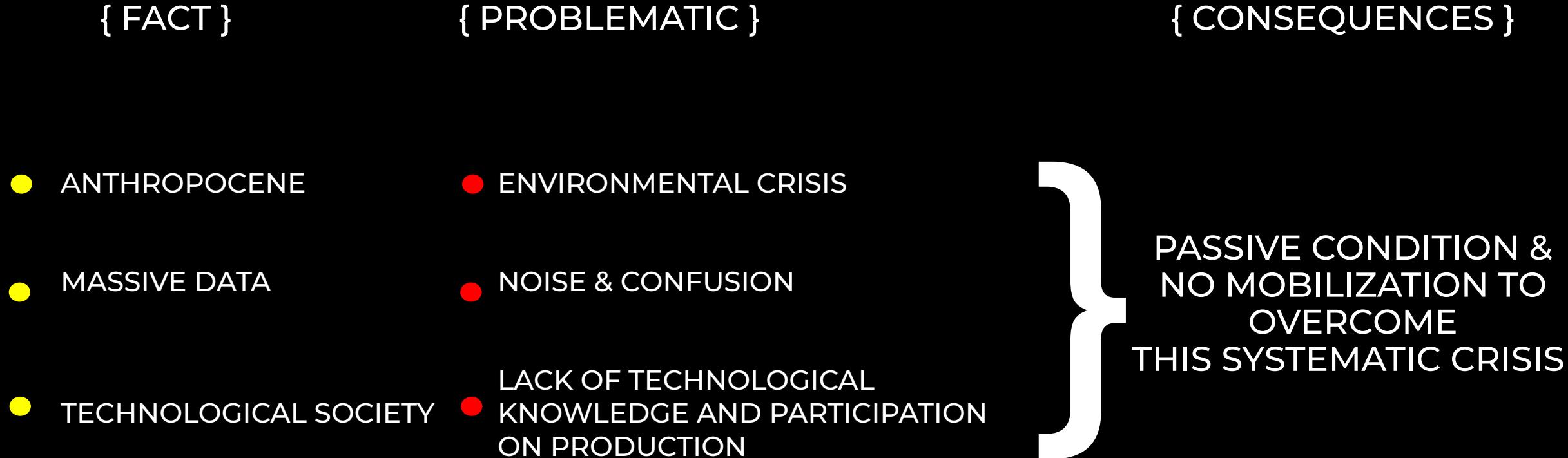
Art

Ecology

Technology

[Fernando Daguanno | Saulo Jacques | Fabian Sguiglia]

[CURRENT CONTEXT]



[CURRENT CONTEXT]

{ FACT }

QUESTIONS

- ANTHROPOCENE
 - WHAT ARE THE TOOLS TO UNDERSTAND THE PROBLEMS THROUGH CRITICAL THINKING?
- MASSIVE DATA
 - HOW TO DEAL WITH A MASSIVE AMOUNT OF DATA?
- TECHNOLOGICAL SOCIETY
 - COULD DIGITAL LITERACY REACH BEYOND TRAINING AND PROMOTE A REAL INCLUSIVE PROCESS?

[CURRENT CONTEXT]

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- ANTHROPOCENE
- MASSIVE DATA
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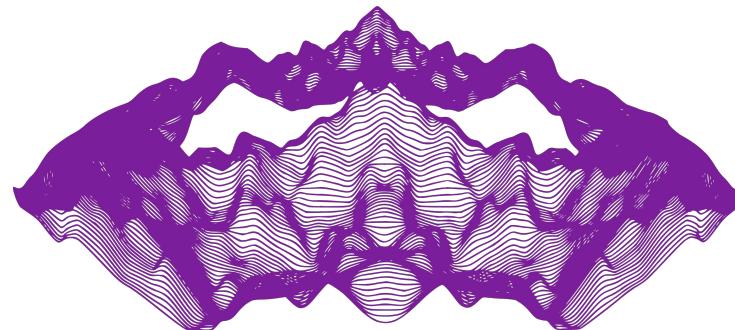
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{ fractaL }

- EVALUATE THE ECOLOGICAL ISSUE AND FACILITATE THE DEBATE AND KNOWLEDGE PROCESSES.
- DATA AS A SOURCE FOR LEARNING AND CREATION THROUGH SOUNDS & IMAGES
- OPEN TECHNOLOGY AND OPEN SCIENCE PROMOTING PARTICIPATION AND SKILL IMPROVEMENT

[What is fractaL?]

The Colors of
Water flow



The Shape of
Biodiversity

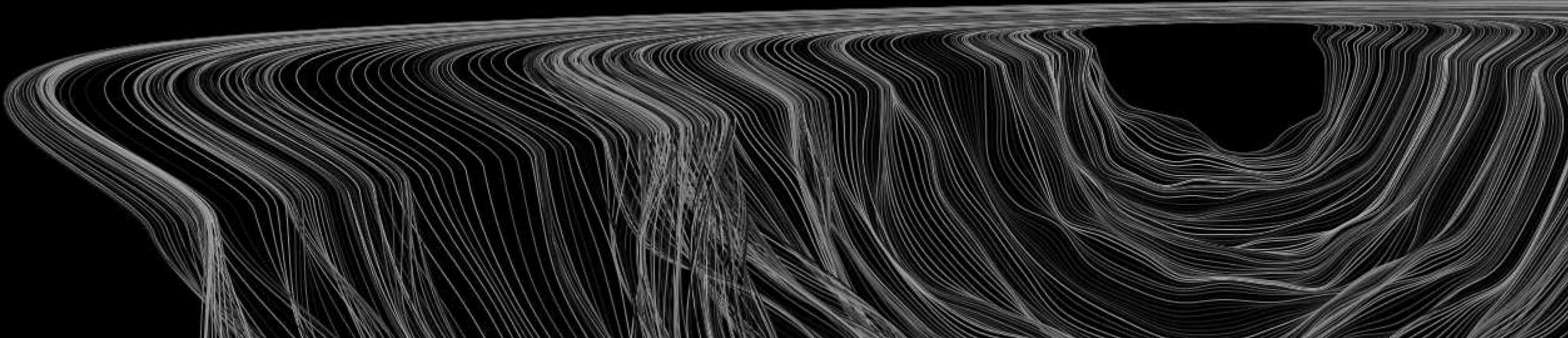


The Sound of
Temperature



[What is fractaL?]

A 10 months educational program that helps
young people learning **python language**
using and transforming environmental data
into **SOUNDS & IMAGES**



[WE USE]

Technology

{ we develop fractaL CODE as a tool for learning and studying }

{ beginners friendly }

Art

{ we translate the environmental code into synesthetic representations of images and sounds}

Ecology

{ we use as a base an environmental data set covering 10 years of environmental monitoring}

[10 years of aquatic ecosystem data]



extreme
environments



coastal
lagoons



amazonian
rivers

[WE USE]

{ Our workshops and classes are thought to transmit strong skills on programming language and raise awareness about the vulnerability of the environment. }

{ interactive classes and art, participatory process of society in doing science}

Education

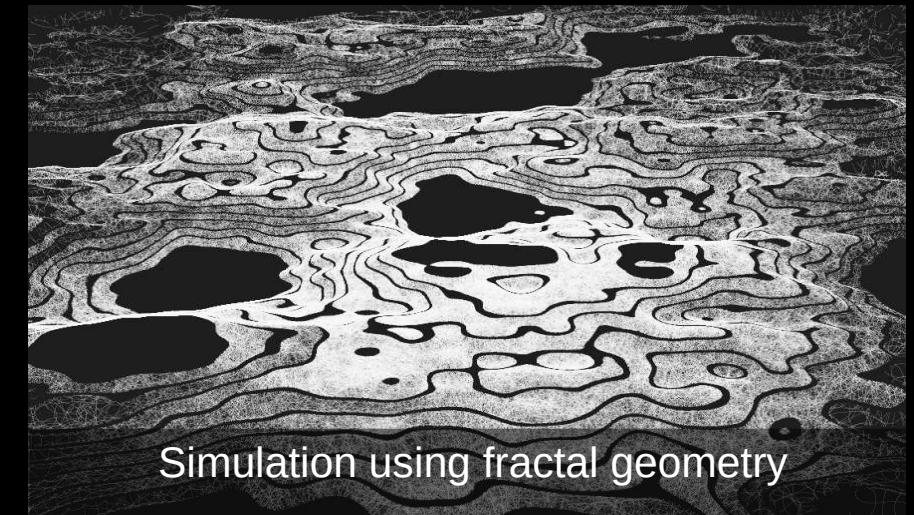
Participation

[WE USE]
[**FRACTAL** &
SYNESTHESIA]

Fractal Geometry is a way of measuring the degree of **roughness** or brokenness or **irregularity** in an object. Contrary to triangles, squares, circles, rectangles, the shapes in Fractal Geometry are not regular at all.



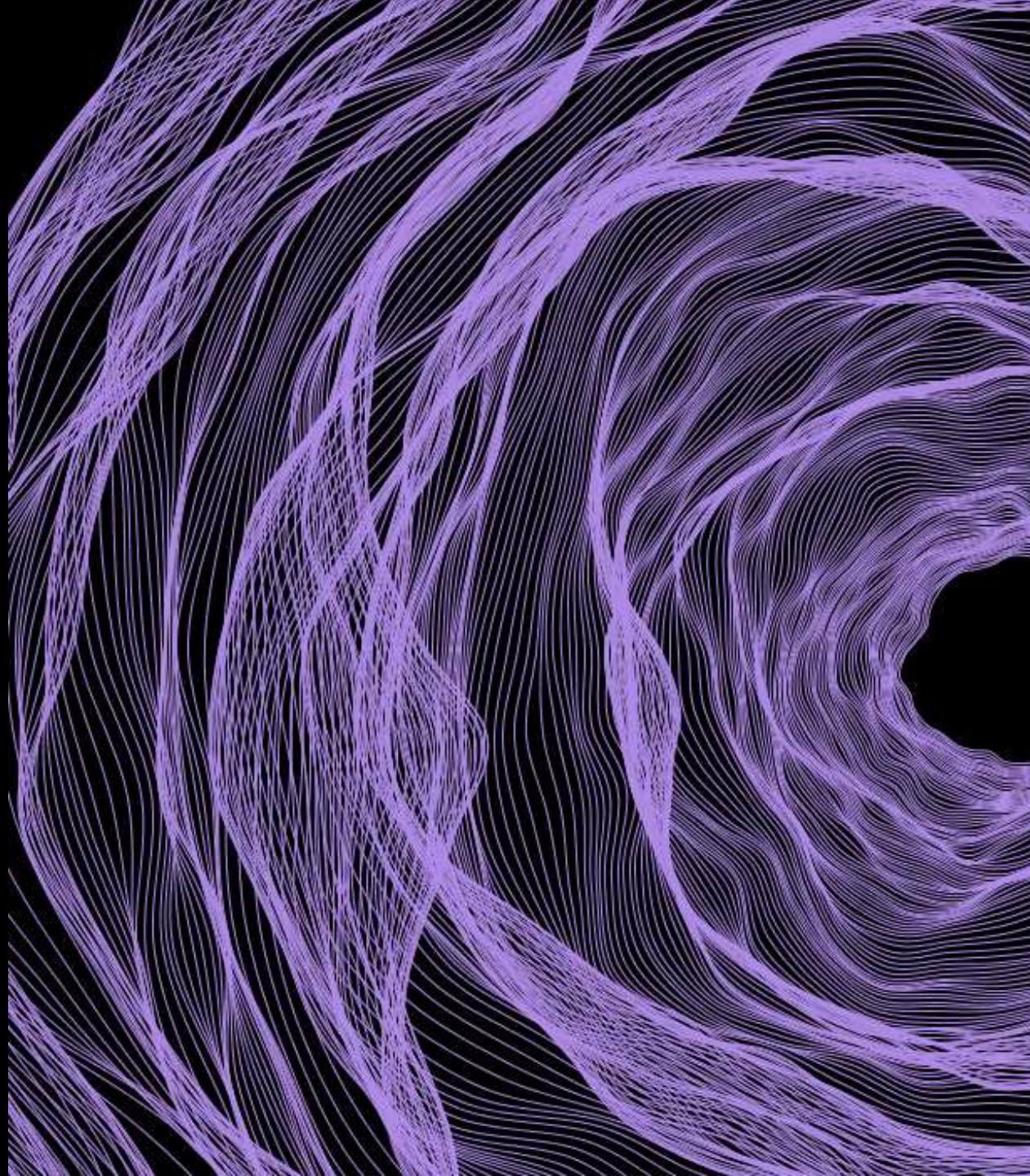
The principles of **Fractal Geometry** are broadly used to generate computer graphics and create digital worlds, or in ecological research as a way to better understand the natural patterns around us.



[WE USE]
[FRACTAL &
SYNESTHESIA]

Synesthesia is a phenomenon in which stimulation of one sensory or cognitive pathway leads to experiences in a second sensory or cognitive pathway.

In **fractaL synesthesia** is used to produce **sounds and images**. Environmental variables that usually can be **felt** or **smelled** will be seen and heard.



[HOW WE MAKE IT POSSIBLE] [RELEASE & PROMOTION]

June 2019



[HOW WE MAKE IT POSSIBLE] [RELEASE & PROMOTION]



June 2019

{Exhibitions} ● cultural | artistic | civic | free technology centers ● performances short workshop ● educators | broad audience

{Urban Installation} ● squares | urban spaces | schools or sport areas ● projections on building walls music ● 14-18 years old

OTHER PARTNERS {Local communities and partners} ● associations | civic centers | network of members and collaborators

{Public schools and teachers}

{Communication support}

- website content | digital media and networks | local offline & online media & newspapers.

{Where}

- Barcelona, Quilmes, Sao Paulo, Rio de Janeiro

[HOW WE MAKE IT POSSIBLE] [TOOLS & STEPS]

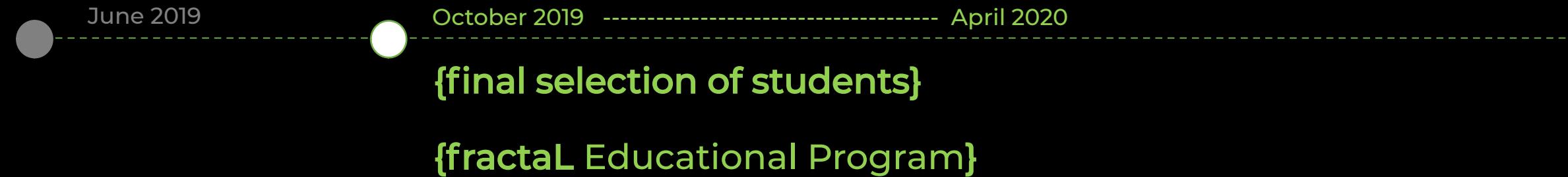
June 2019

October 2019

April 2020



[HOW WE MAKE IT POSSIBLE] [TOOLS & STEPS]



Where

- #### • **Barcelona, Quilmes, Sao Paulo, Rio de Janeiro**

who

- Young people from 14 to 18 years old

What

- Understanding of Python package and application ecosystem | Learn Python Syntax through practice on manipulating data | Experiment with the code and development of a project based on fractalL

5 classes of 4 hours (20h in total per course)



[HOW WE MAKE IT POSSIBLE] [TOOLS & STEPS]

June 2019

October 2019

--- April 2020

May 2020

[HOW WE MAKE IT POSSIBLE] [TOOLS & STEPS]



- Barcelona + Virtual Connection with Quilmes, Sao Paulo, Rio de Janeiro Where
- General audience | teachers and educators | participants of the Hackathon | 14-18 years old people | partners Who
- Hackathon, presentation of fractaL development, the final projects presentations, the new year program development 2020 What

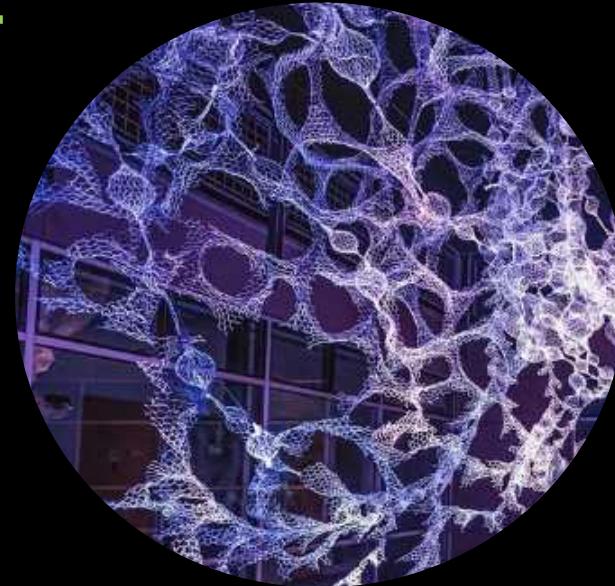
2 days

[... TO BE CONTINUED]



{the fractaL Didactic Program Community}

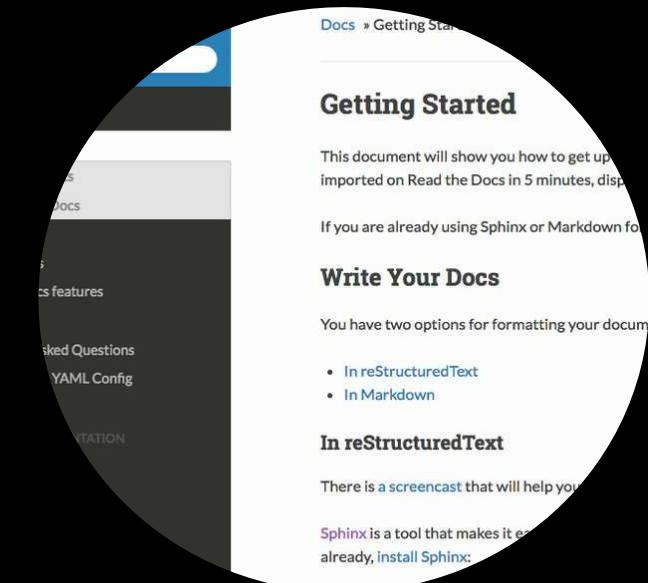
to find useful information and new opportunities to learn



All the digital audiovisual material created in the classes will become gradually part of **{artistic exhibitions}**

{the didactic material}

will be shared using open source platforms

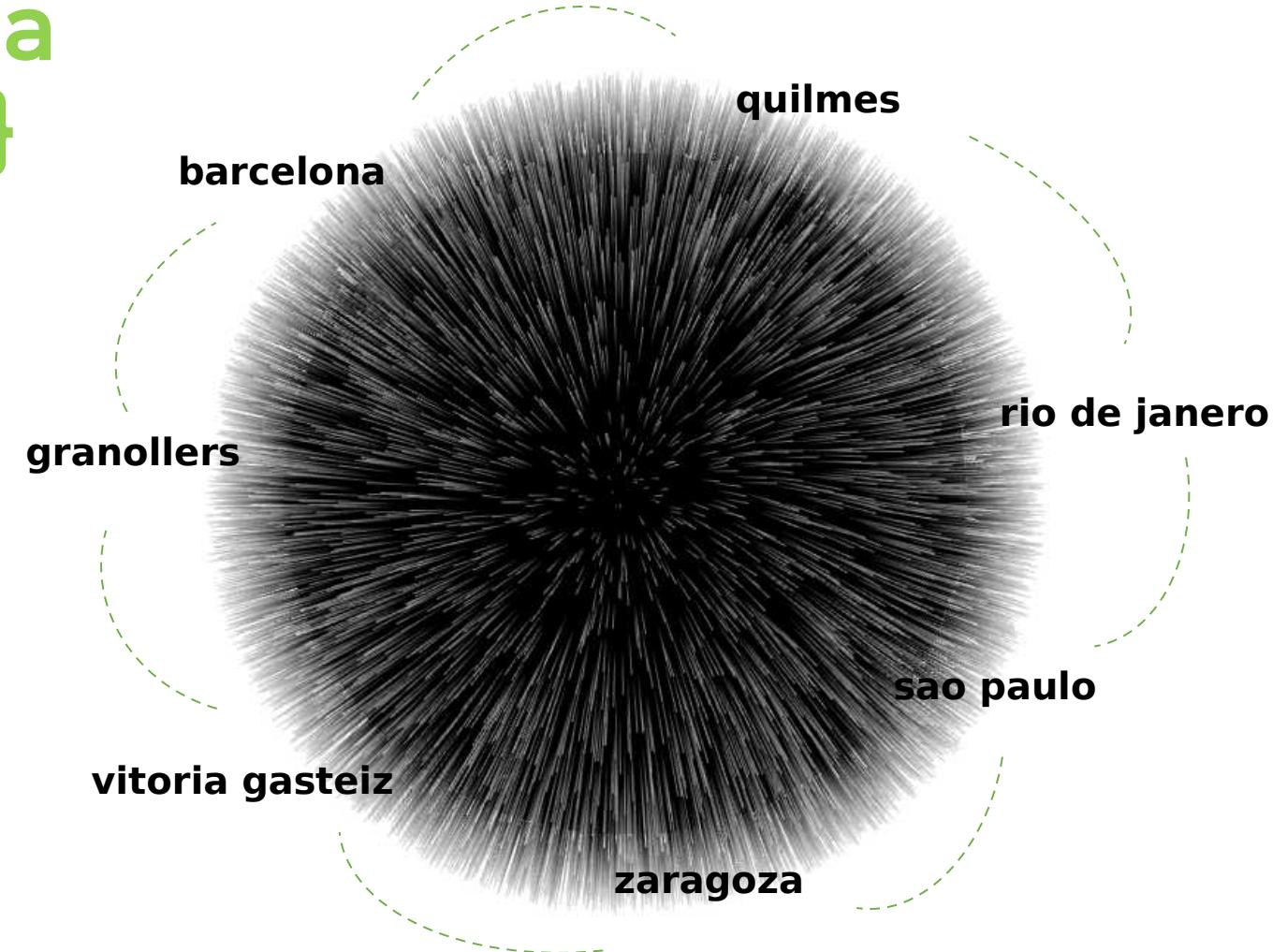


[... TO BE CONTINUED]



{from local communities to a global network}

to keep in touch,
create, collaborate



PRIMARY TARGET: {young people from 14-18 years old}

CHARACTERISTICS: international and diverse audience

SELECTION CRITERIA: gender equity, local-regional community and social inclusion. A priority focus will be given to students from public schools and areas at risk of social exclusion.

Those criteria will be assured by an external group composed by members committed to the principles of Python Foundation.



SECONDARY TARGET: {educators, teachers, broad audience}

[AIMS & BENEFITS]
COUNTABLE

> 350 Young people reached

Workshop hours

> 60

Teaching hours

> 50

3

Countries

5 Public Space Exhibition

Cities

4

[AIMS & BENEFITS]
UNCOUNTABLE

{significant & beautiful representation of data}

{technological
literacy}

{local
focus}

{diversity &
inclusivity}

{openness &
freedom}

{python language
promotion}

{participation &
collaboration}

{global
integration}

{interdisciplinarity}

{environmental
sensitivity}

\$30,014

*Proposal – Development, Workshops, Hackathon and Other Events*

Activity	Hours/ Unities	unit cost	subtotal
Development	630	41.98%	\$12,600.00
Classes	244	25.24%	\$7,575.00
Equipment	26	11.12%	\$3,339.00
Logistic Administrative		21.66%	\$6,500.00
Total Budget			\$ 30,014.00

*The detailed budget can
be found in the
spreadsheet sent attached
to the application]

THE TEAM & WHY



Saulo Jacques, PhD
Ecological Education &
Open Technology



Fernando Daguanno
Open Hardware Art

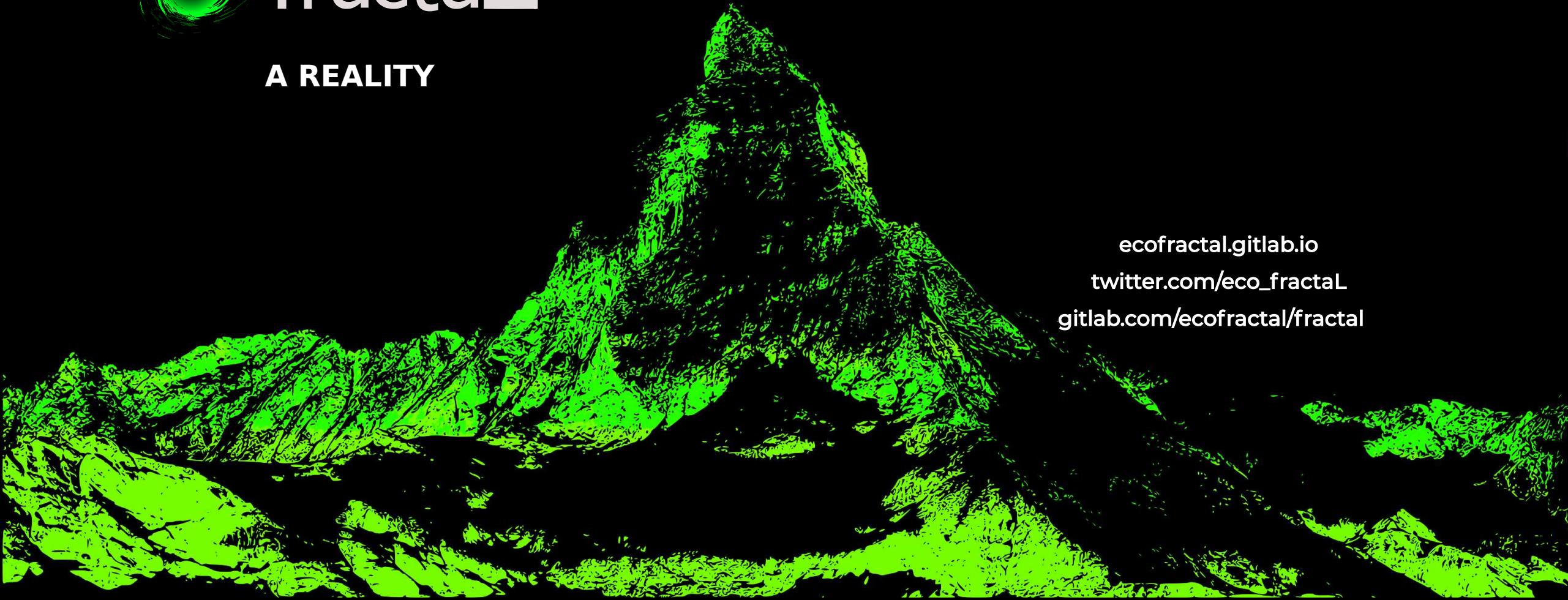


Fabian Sguiglia, PhD
Sound Art Research &
Interactive Systems

[THANKS FOR MAKING]



A REALITY



A large, dark, abstract fractal landscape graphic occupies the lower half of the image. It features intricate, organic patterns resembling mountains or clouds, rendered in shades of black, grey, and white against a black background.

ecoFractal.gitlab.io
twitter.com/eco_fractaL
gitlab.com/ecoFractal/fractal