

EXOGRAPHER




A videogame based on particle physics

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*A platformer game
exploring a mysterious world
imbued with particle physics*

Take a picture...

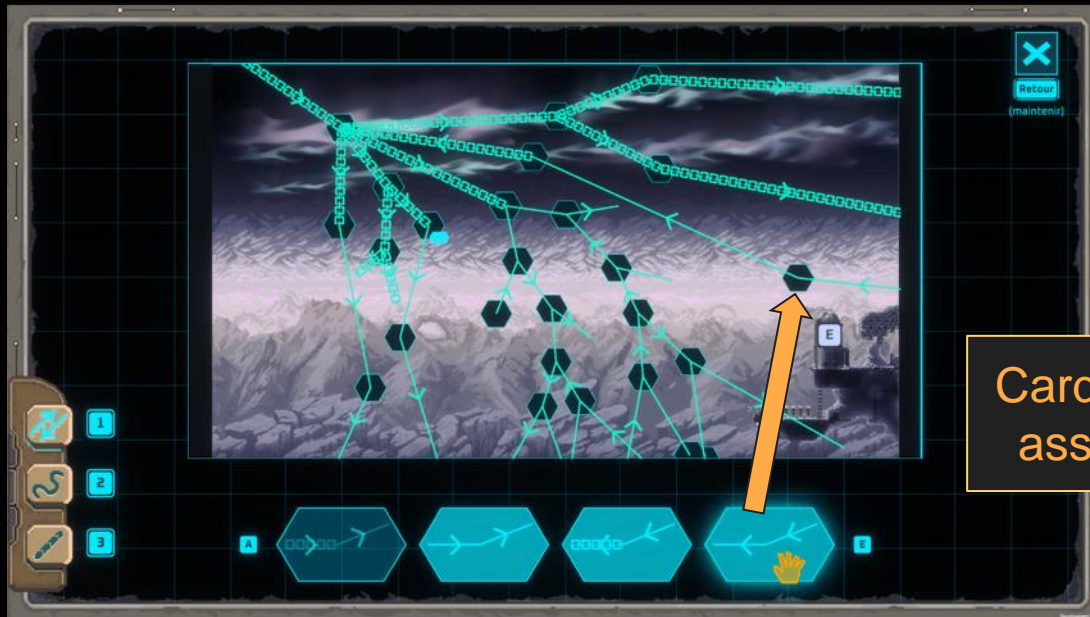


A night sky filled with colorful star trails in shades of red, orange, yellow, green, and blue. In the lower right foreground, a satellite dish is mounted on a blue, rocky platform. Next to it stands a small, pixelated figure of a person wearing a white space helmet and a blue suit. The background is a dark, deep blue sky.

Take a picture... to reveal the invisible!

Goal #1 : Feynman diagrams

To bring non-expert players to manipulate basic (2D) diagrams, via pattern recognition puzzles, including special tools such as: missing energy, time flow or a zoom...



Card - Vertex association

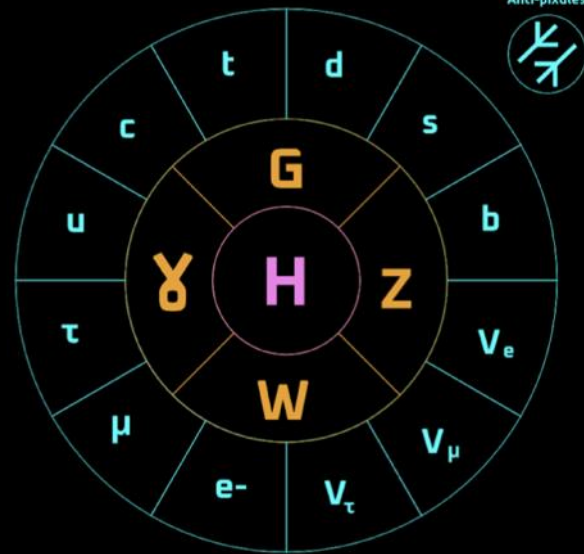
Goal #2 : Particle zoology

In your rosette, collect 17 “pixules” corresponding to (real) elementary particles...



Muon

Very similar to the electron, just heavier. Its lifetime is relatively long for a pixule, about two microseconds. This longevity allows it to reach the ground, while it is created high in the atmosphere, by energetic cosmic rays. It is there, by the way, that Dirca discovered them. Totally unexpected, these muons showed up by surprise, revealing the existence of other pixules than the ones we are made of.



- Filling the rosette opens new levels
- Discovering bosons unlock power-ups



4 POWER-UPS



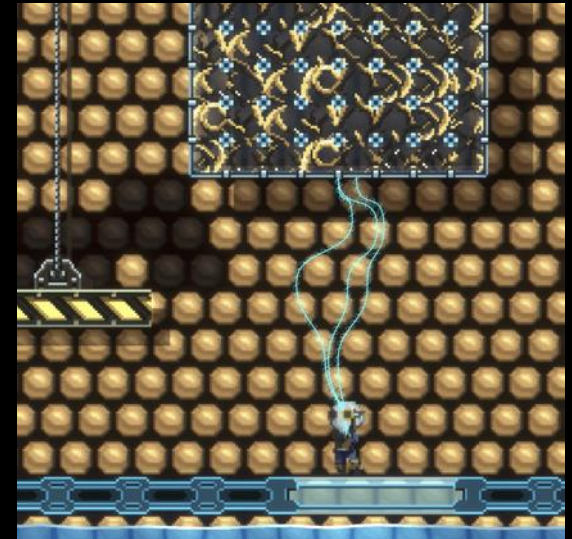
Photon sphere



Gluon boots



Wedic wave



Zediactal boxes

Four **skills** allow you to tame and overcome absurd substances

A SCIENCE-INSPIRED WORLD BUILDING

Rucie



in game

A SCIENCE-INSPIRED WORLD BUILDING

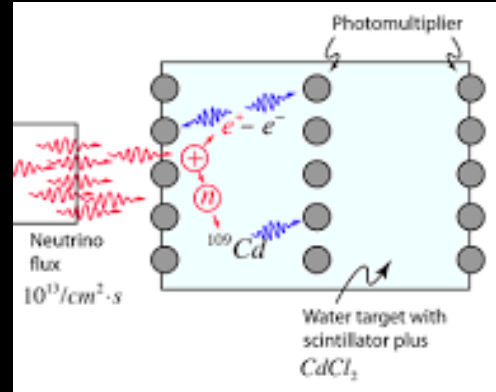
Rucie



in game



Kamiokande, Japan

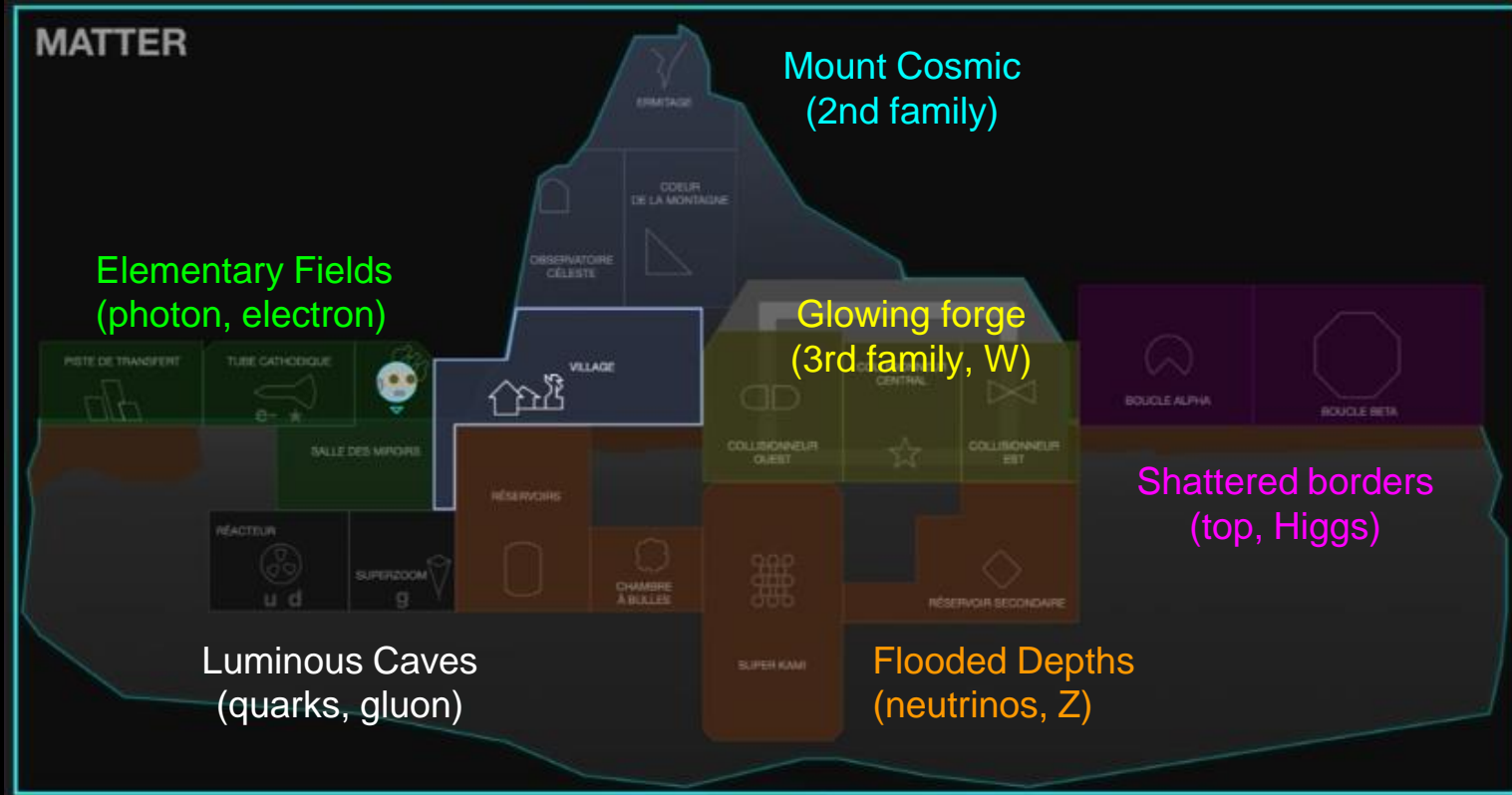


behind the scenes

(to be revealed in a wiki, reddit, discord, forum...)

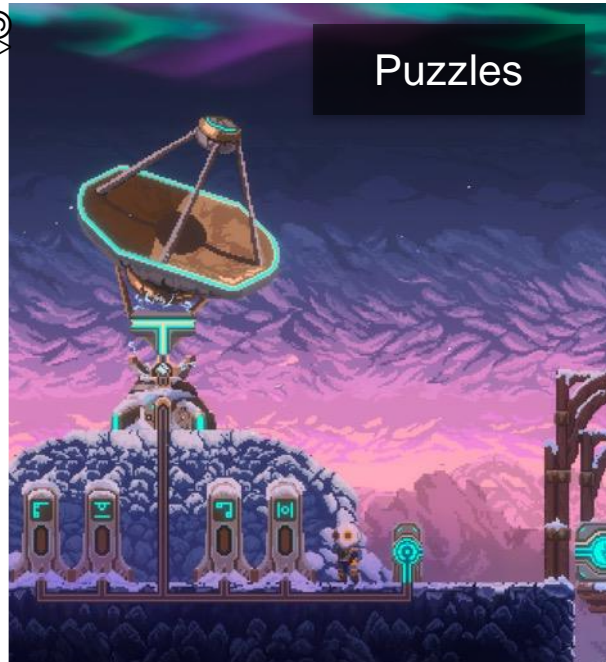
WORLDMAP

20+ levels and 6 atmospheres to go back to the origin of the disaster and face the ultimate discovery



IN SHORT...

Master goal: raise curiosity for particle physics



About 15 hours of gameplay, surrounded by particles, for ~20 €

Exographer, timeline



- **2019-23** : conception within the Science & Videogame **academic chair** of École polytechnique (under **Ubisoft** patronage)
- **Nov'23** : shown at the Paris Games Week (200+ players, excellent feedback)
- **Nov'23** : creation of the spin-off studio **SciFunGames** “Science for all, fun above all”
- **Jan'24** : deal with the **Abylight** publisher
- **Fev'24** : announced on **Steam** (you can put the game on your wishlist)
- **Jun'24** : playable **demo** on Steam [[link](#)] and discover photons and electrons
- **Fall 24** : simultaneous release on PC & Mac / **consoles** (Switch, PlayStations, XBOX)

The team



Raphaël

Narration
Science



Thomas

Artistic
director



Tony

Lead Dev



Catherine
Producer

EXOGRAPHER

Priscilla & Arthur
UX designers



Pierre-Alban
Game Designer



Léonard
Tech Art



G4F
Sound design



Yann
Composer

Targeted audience = 12-35 yrs



Target #1 (Fun) : Frequent players, curious and eager for new experiences; they have played best-selling platformers (Fez, Braid, Owlboy, Celeste, Ori, Hollow Knight...)

Target #2 (Sci) : Players interested in science; prescribing parents; curious scientists; academics; they consume science on other media (Youtube, TikTok...)



Exographer, lessons



- **Goal** : reach a **large audience** with no a priori interest → Video games
- Professional quality videogames **cost money** (human resources, with several high-level profiles needed)
- **Target** : **100 000+ players** (**9 languages** available already)
- Now that Exographer (almost) exists:
 - we can use it to popularize our science → **Spread it around you?!...**
 - we can discuss extra visuals / side levels based on your favourite experiment / physics case

CONTACT

Wanna know more?

Wanna play more?



[Exographer on Steam](#)



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End of talk, back-up slides



OUR SOLUTION

Videogames, the best popularization media?



Game
mechanics



Engaging
graphics



Large
audience



Interactive
experience

TABLET & PICTURES

Guided by a **mysterious tablet** equipped with a **camera**,
Unveil **encrypted clues** and repair **impressive machines**



WORLD

Discover a familiar environment yet strangely corrupted:

Four absurd substances have swamped the world

Each is an obstacle that you will learn to overcome



ROCK



FLORA



TAR



FOG

EXOGRAPHER'S PILLARS

A mysterious world

Full of intriguing machines
unveiling fascinating
phenomena



A pure platformer game

Engaging and guiding
players through original
mechanics



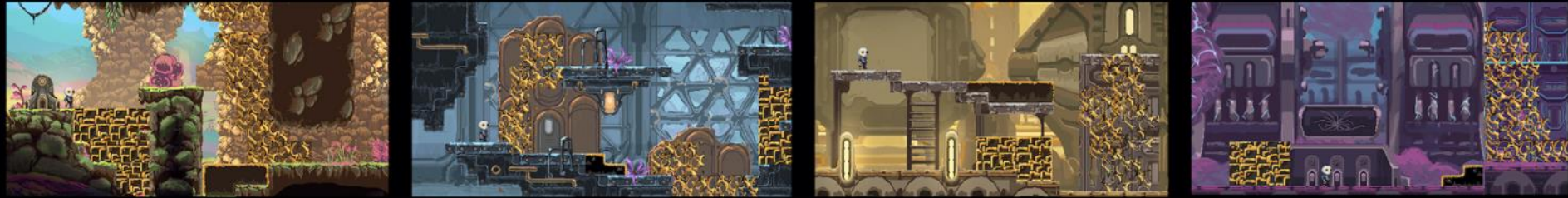
A scientific background

Echoing from world
building to puzzle design



A DUAL-PHASE EXPERIENCE

Explore a **disconcerting universe** and break its mystery...



Understand its **core elements** to track the chronology of a disaster...



CHARACTER

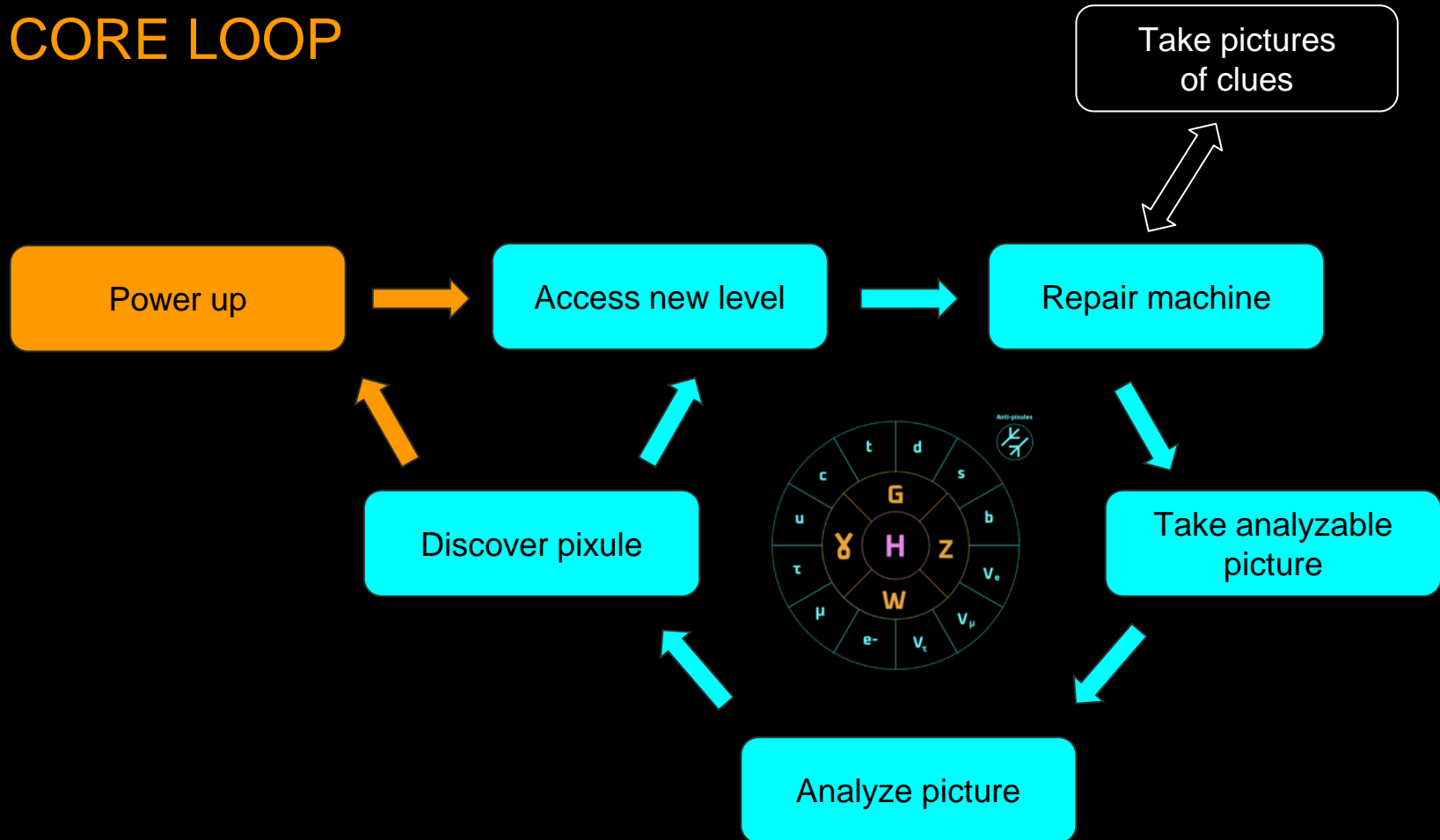
Embodiment Inl, an explorer teleported for a **rescue mission** on a strange planetoid, with no possible return



Character equipment and progression



CORE LOOP



A CENTRAL FEATURE = TAKING PICTURE

Reveal new particles
and their tracks



Decypher all the clues
left by the Natitans...



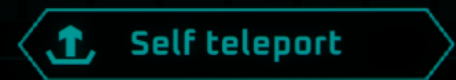
Help solving puzzles



Provide a unique game save point



... providing as many
check points



IN SHORT

*Live an amazing encounter with science,
making particle physics intriguing,
wonderful and tameable through a pure
puzzle / platformer game*

Science for all

Fun above all



The first videogame studio dedicated to science popularization

OUR MISSION

Reconnecting audiences

27%

of young people* doubt
that humans are the
fruit of evolution
(IFOP, 2023)

95%

of young people*
play video games
(SELL, 2020)

200G\$

annual worldwide
revenue from video
games, the leading
medium

→ Using video games to democratize science

* French statistics, same tendencies worldwide

OUR FOUNDER

Raphaël Granier de Cassagnac

- **Ubisoft's** trust to hold the Science & Video Games academic chair @ **Polytechnique** (2019-2023)
- **Sci** = physicist at CERN && **Fun** = Game studio co-founder, writer (3 novels, 12 short stories, 4 universe-books, 2 movie projects...)



TESTIMONIALS

They played Exographer

« I want to play it on Nintendo switch » A **Nintendo producer**, Game Connection 2022

« We see the game appealing to players that appreciate puzzle-platformer games with a core focus on puzzles. » A **Ubisoft producer**

« It's weird, but fun weird. » **Eva Gaspar**, Abylight's CEO

« A great way to discover particle physics while having fun! » **David Louapre**, (French scientific youtuber with 1,3 M followers)

« With Exographer, you enter the world of the infinitely small, and strangely enough, you come out all grown up! » **Étienne Klein**

« A game which does not take players for imbeciles », **Yanukass**, Paris Games Week

« The powers are easy to handle and fun to use » **Tester #A**

« The Yurt level is really beautiful » **Tester #B**

OUR Positioning

Game	Total revenue
Braid	6 000 000 €
Fez	3 500 000 €
Outer Wilds	27 000 000 €
Elec head	400 000 € (PC)
Spacechem	2 000 000 € (PC)
Kerbal SP	55 000 000 €
Celeste	85 000 000 €
Hollow Knight	200 000 000 €

Fun (platform / puzzle games)



THANKS FOR YOUR ATTENTION



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