



## Citizen Science:

*Quality* *collective*  
Big data ; artificial intelligence



un centre de compétences





## **VOTRE MISSION SI VOUS L'ACCEPTÉZ...**

L'enquête Mission Hérisson s'adresse à tous. Elle a pour but d'étudier les évolutions de population du Hérisson d'Europe sur plusieurs



© Antoine Meuzier

### Comment préparer mon encre ?

1. Préparez un petit bocal avec un couvercle. Versez-y 2 cuillères à café de poudre de charbon.
2. Ajoutez-y délicatement de l'huile végétale (tournesol, arachide, colza...) en remuant jusqu'à l'obtention d'un liquide bien lisse (ressemblant à de l'encre de Chine).
3. C'est prêt !

**Conseil : afin de pouvoir conserver votre encre entre 2 sessions de suivi et pour faciliter son utilisation, réalisez votre mélange dans un bocal hermétique, de préférence en verre. Vous pourrez ainsi la conserver plus longtemps.**



# POTAGER DE PEREPAUL

Le mercredi 11 novembre 2020

🕒 JOUR 5



📍 60 - Oise

🌳 Terrain clôturé

**Environnement général du lieu :** Urbain

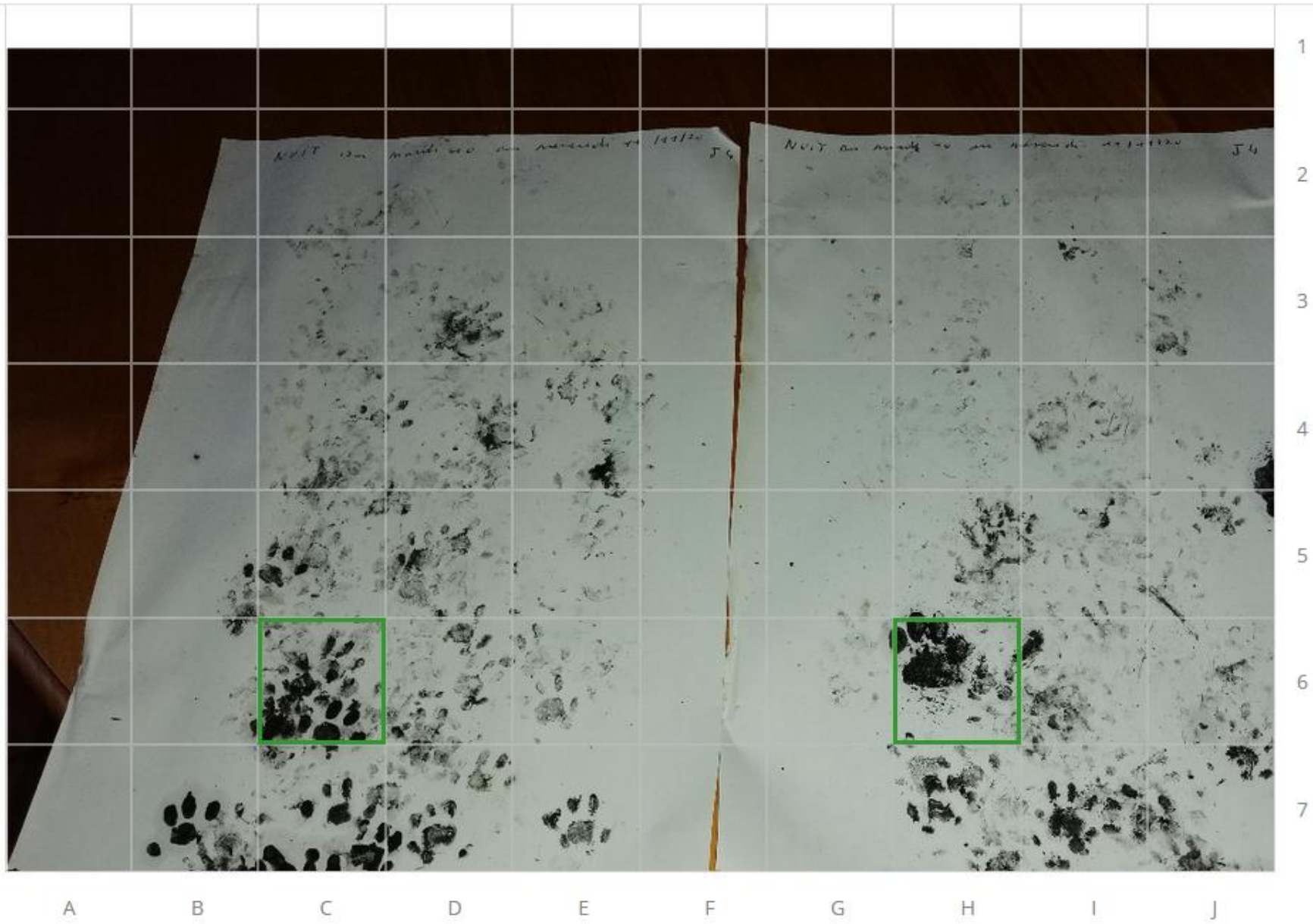


🌿 Dans un jardin

**Origine du tunnel :** Tunnel construit par moi même

**Structures linéaires proches à côté du tunnel :**  
Clôture

**Forme du tunnel :** Carré



1

2

3

4

5

6

7

A

B

C

D

E

F

G

H

I

J

# ANIMAUX OBSERVÉS

## Identifications trouvées ou approuvées par PEREPAUL

 **PEREPAUL**



**2**  
validations  
[0 suggestion](#)

**HÉRISSON**  
Case C6

 Je confirme cette identification

 J'ai une autre identification à proposer

 **PEREPAUL**



**1**  
validation  
[0 suggestion](#)

**CHAT DOMESTIQUE**  
Case H6

 Je confirme cette identification

 J'ai une autre identification à proposer



**1538**  
Participants



**10913**  
Empreintes

## VOTRE MISSION SI VOUS L'ACCEPTEZ...

L'enquête Mission Hérissou s'adresse à tous. Elle a pour but d'étudier les

A first lesson from our experience

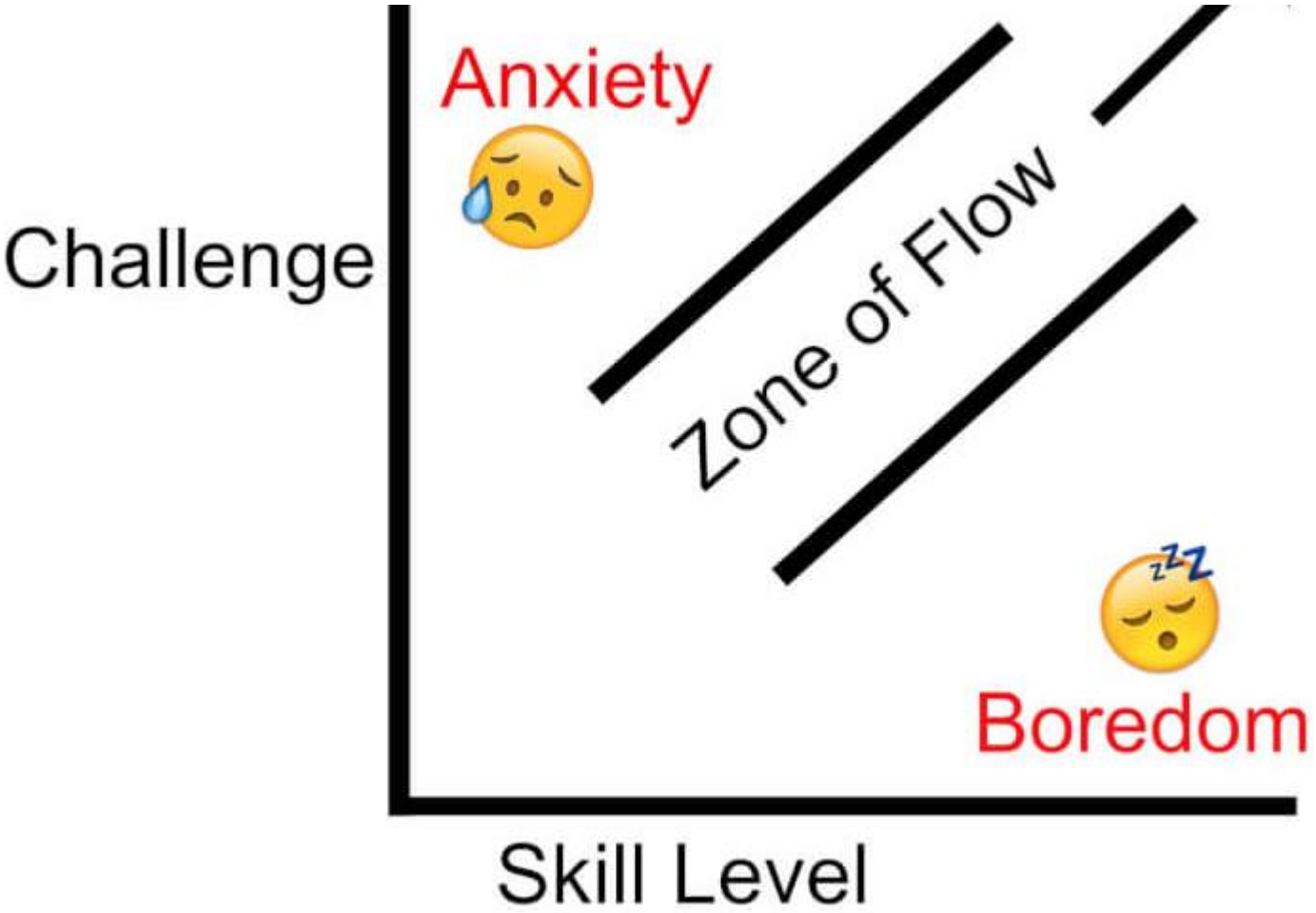


## A first lesson from our experience:

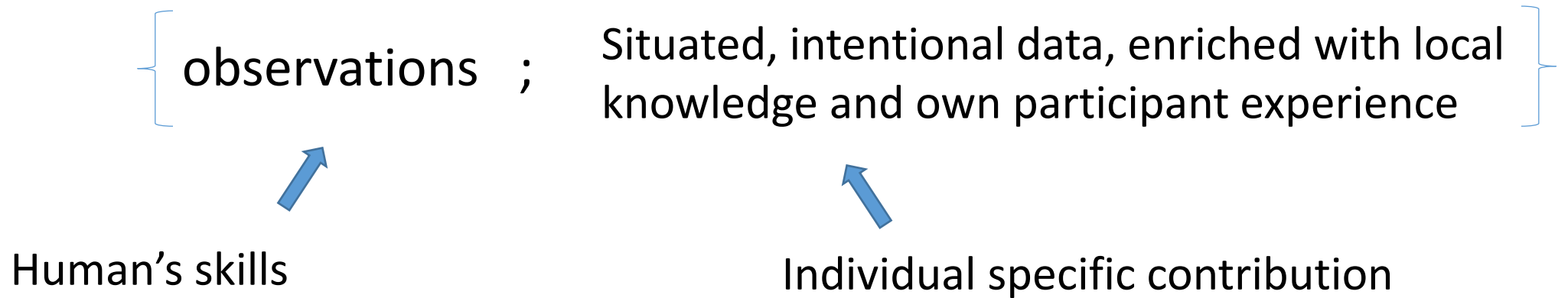
A positive correlation between scientific data quality et participant engagement

  
« it must be simple and funny otherwise people do not participate »

Find the optimal Optimal experience  
(Csíkszentmihályi Mihály) :



## Structured data / based on protocol:





A secon lesson from our experience

# The importance of the social platform for data quality control



ASTER 2010



PRÉCÉDENT SUIVANT RETOUR À LA LISTE



**AFFICHER**


2010-09-17  
Nom de la Fleur: Taxon inconnu de la clé (aster)  
Il s'agit d'une fleur : plantée  
Il s'agit d'une habitat : jardin privé /  
BIVILLE-SUR-MER (76098), SEINE-MARITIME (76),  
HAUTE-NORMANDIE (23)  
par : étamines

[TOUTES SES COLLECTIONS DANS LES GALERIES](#)





Dernière(s) identification(s):  
**Les Mouches à damier**

**AFFICHER**



Dernière(s) identification(s):  
**La Syrutte piaulante**

**AFFICHER**



## COMMENTAIRES DES INTERNAUTES

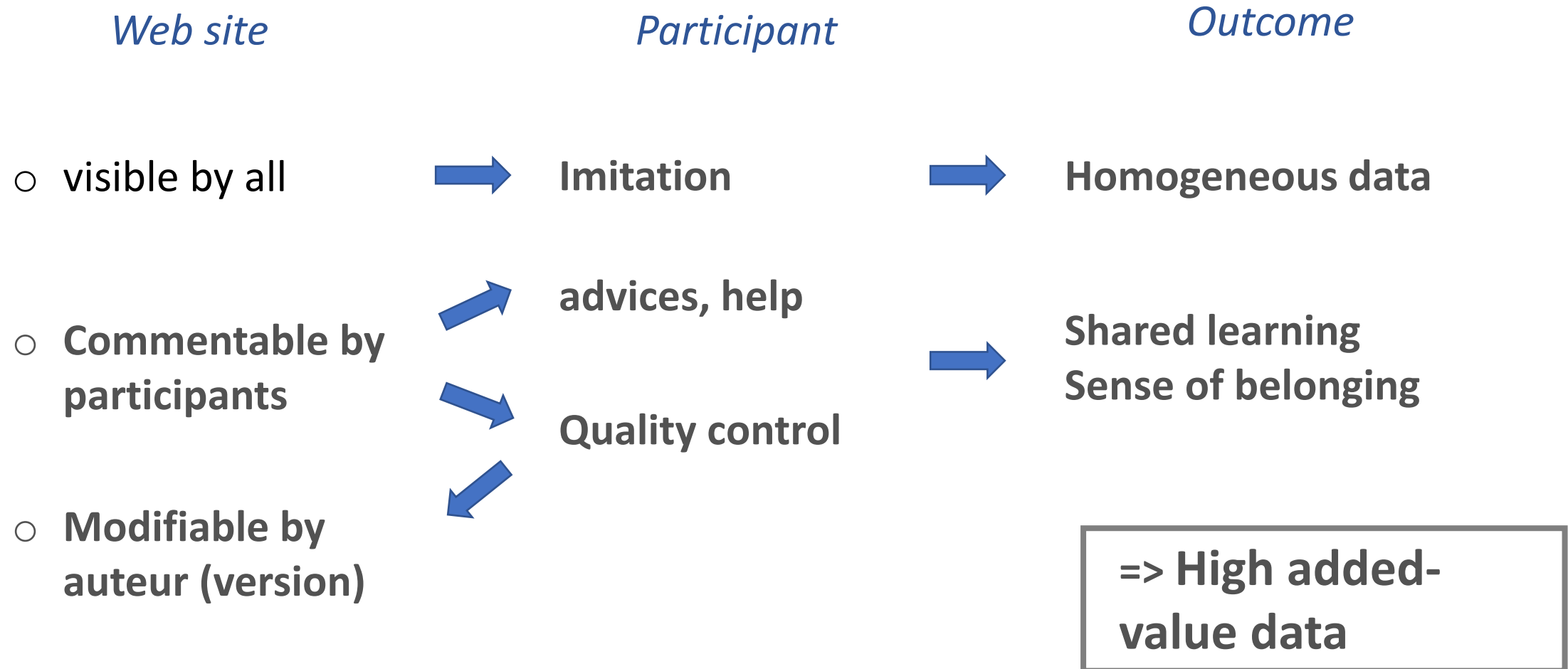
par : cybelle 2011-04-23

Superbe votre collection Etamines, les insectes se bouscuaient pour vous faire plaisir, vous avez dû vous régaler.

par : Fernand 2011-04-23

Très belles photos. Les fleurs sont magnifiques et les insectes également. Beau travail étamines .

# Citizen science 2.0 : the martingale





# CHANGING NATURES

## Developing a Shared Participatory, Digital Collection of the Anthropocene

Elisabeth Heyne, Frédérique Chlous, Romain Julliard, Ulrike Sturm, Mira Witte





- Environmental amnesia: our reference of good state of nature is our childhood. We individually and collectively forget what has happened before.
- Once in while, we come across a document/object from the past that surprises us about what it tells us on the past state of nature and the amplitude of changes since.

Let's make a participatory digital (research) collection out of it !



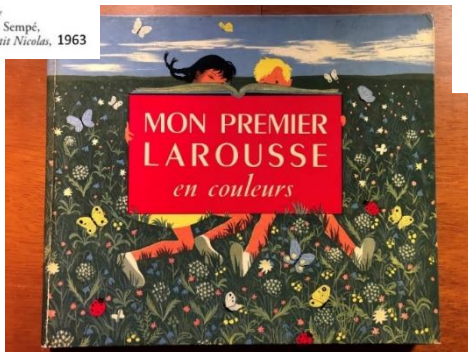
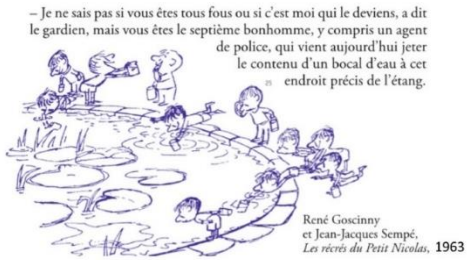


# Démarche participative

Proposer aux citoyens de partager des documents du passé/archives

- Qui témoignent à leurs yeux des changements de la nature
- Qui les interpellent (surprise)
- Et qui leur donnent envie de construire un récit sur le changement perçu.

Différents types de documents concernés (archives privées, personnelles ou documents publics)



- 1 YOUR OBJECT
- 2 SHARE YOUR STORY
- 3 TIME AND PLACES
- 4 ENVIRONMENTAL
- 5 MATERIALS
- 6 EMOTIONS
- 7 SUMMARY

# Share your story

What can you tell us about your object ?\*



What is your relationship to the object you chose?



What does the object in your eyes tell about changes of nature?  
Is there something surprising about them?



What does your object and story tell about global environmental transformations?

Heading 1 ▾ **B** *I*

1500 characters max

Which environmental, historical or social topics are linked to your contribution?\*

[help](#)

#tag1 X #tag2 X

\*Mandatory fields

[GO BACK](#)

[SAVE DRAFT](#)

[NEXT STEP →](#)

- 1 YOUR OBJECT
- 2 SHARE YOUR STORY
- 3 TIME AND PLACES
- 4 ENVIRONMENTAL
- 5 MATERIALS
- 6 EMOTIONS
- 7 SUMMARY

## View master, Vannes - 1992



By C. Delais



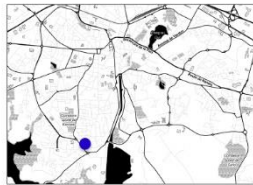
OBJECT N°109834

<b>ENVIRONMENT :</b>	<b>Habitat</b> Urban, Countryside	<b>Animals</b> Pigeons (Grey dove), Horses	<b>Plants:</b> Grass,Lawn	<b>Other species:</b> Lichen
<b>MATERIALS :</b>	<b>Raw material</b> Fossil oil, Wood	<b>Processed material</b> Plastic, cardboard, photographic film	<b>Practices:</b> Photography, Tourism	
<b>OTHER IMPORTANT TOPICS :</b> Pressed plastic, memory, souvenir, photography				
<b>EMOTIONS AND HOPES :</b> Childhood, sadness, good old days, Joy				



Julia

Posted Oct 21, 2021



### Time and location

- **2022 : Current location**  
Loudéac, Bretagne, France
- **2015 : Found in the attic**  
Loudéac, Bretagne, France
- **1990 : Origin**  
Vannes, Bretagne, France

### Story

Travel memory, summer vacation 1992, I was 3 years old, summer vacation with my grandparents and my parents in Vannes to visit the city, see the sea and the castle.  
This souvenir contains 12 photos of the city of Vannes that can be scrolled using a wheel.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sem morbi blandit donec bibendum ut odio. Ipsum arcu gravida eget non. Orci facilisi cras urna vitae. Ridiculus mauris eget vitae morbi amet, eget aliquam arcu tempor. Sit amet consequat dignissim ipsum. Et tortor etiam et at sit euismod elit pharetra, semper. Gravida feugiat libero laoreet viverra. Nibh felis et enim mauris malesuada eros sed.

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OBJECT N°109834

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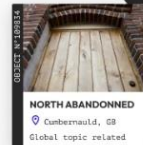


# CHANGING NATURES

A participatory collection of the Anthropocene

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**CONTRIBUTE**



**NORTH ABANDONED**  
 @ Cumbernauld, GB  
 Global topic related



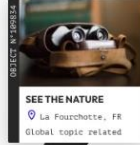
**GOOD DOG**  
 @ Chongqing 重庆市, CN  
 Global topic related



**LOTS OF TRAINS**  
 @ Gorzje Primislje, HR  
 Global topic related



**OLD DUPLO SHEEP**  
 @ Wilhelmshaven, DE  
 Global topic related



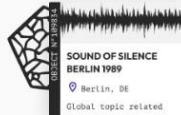
**SEE THE NATURE**  
 @ La Fourchette, FR  
 Global topic related



**HUNTER GRANDPA**  
 @ Saint Remi en Bassville, FR  
 Global topic related



**LANDSCAPE FROM MY CHILDHOOD**  
 @ Czeszochowa, PL  
 Global topic related



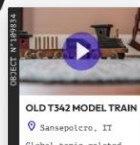
**SOUND OF SILENCE BERLIN 1989**  
 @ Berlin, DE  
 Global topic related



**VIEW MASTER VANNES 1992**  
 @ Vannes, FR  
 Global topic related



**FAMILY TREASURE**  
 @ Hamburg, DE  
 Global topic related



**OLD T342 MODEL TRAIN**  
 @ Sarnepolcra, IT  
 Global topic related

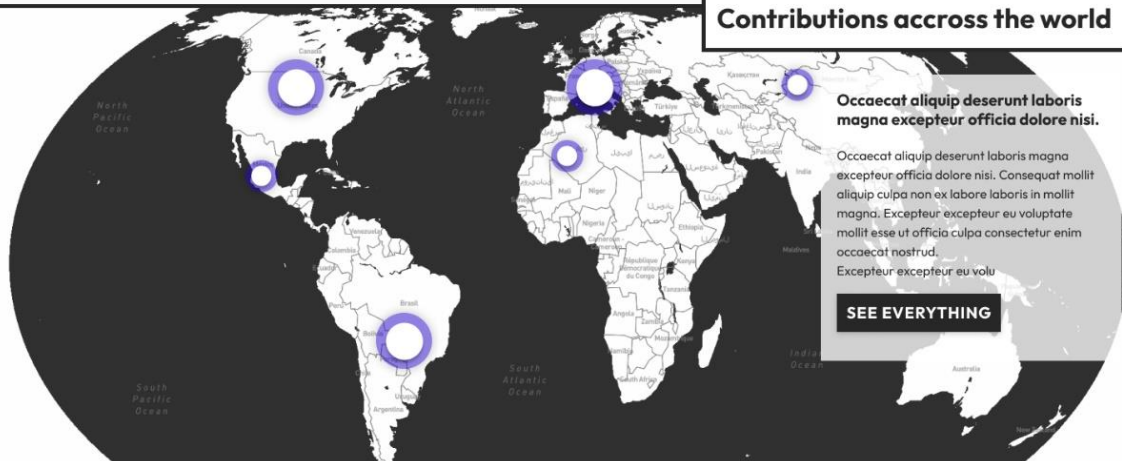


**MAP OF PLEMET NEAR LOUDEAC**  
 @ Plemet, FR  
 Global topic related



**ME AND GRANDMA NORMANDY HOLIDAYS**  
 @ Granville, FR  
 Global topic related

## Contributions across the world



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**SEE EVERYTHING**



- Trilingual platform
- Story and comments are translated with deepl, allowing exchanges among participants not speaking a common language!

# Citizen science 2.0 et health research ?

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The issue of sharing data among participants!

The usual practice:

« Cohorte » survey (forms with little feedback) + online forum on a GAFAM social network

Two concerns:

Difficult to extract appropriate data from forums

Those forum are not secured



Medical research

Participant

Registration on the platform

Standard information system

Secured information system

Personal data

Health data

Contact data

Login / password for citizen science platform

*Login/password send through secured pathways (eg: in hand, during a medical visit)*

Log file: adress IP (no other data)

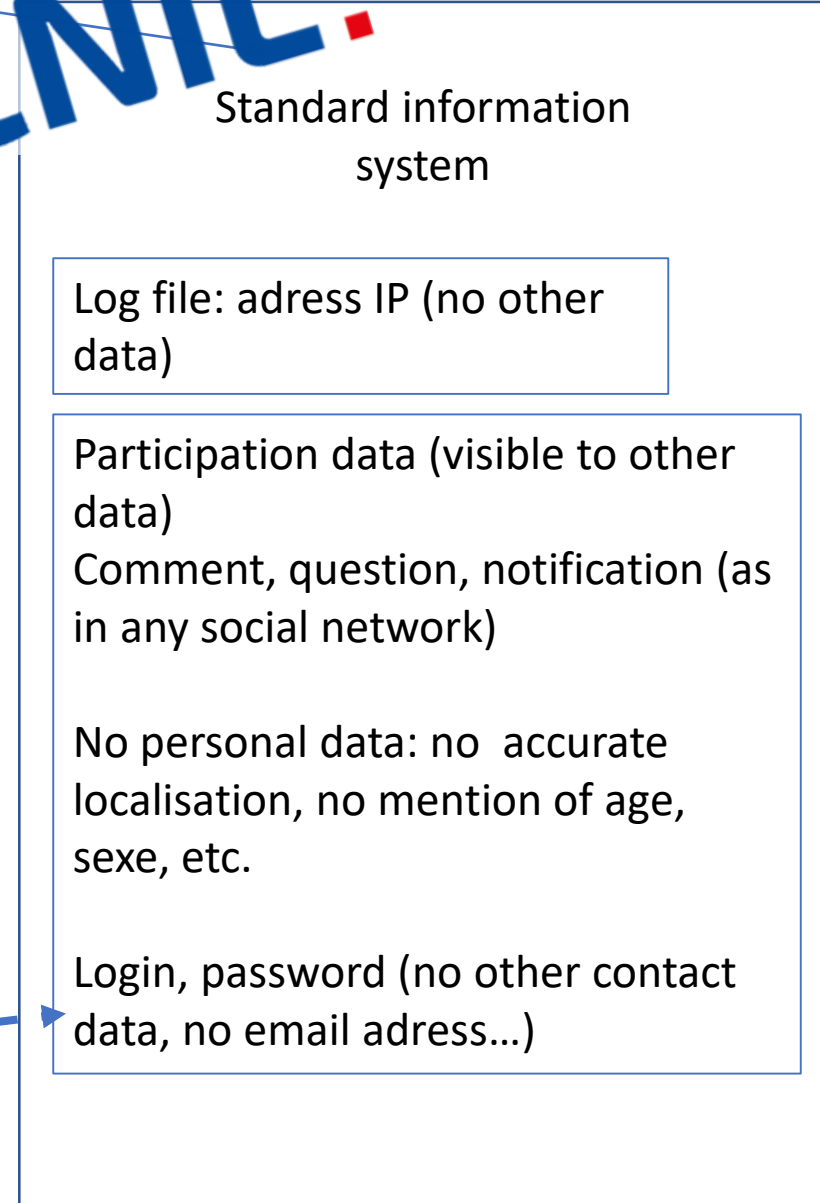
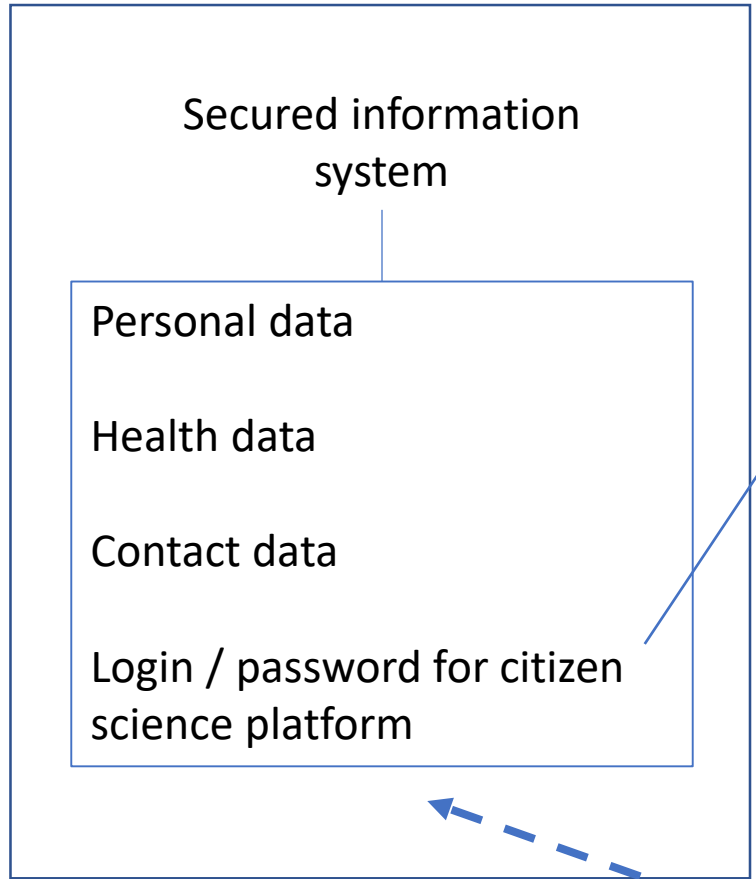
Participation data (visible to other data)  
Comment, question, notification (as in any social network)

No personal data: no accurate localisation, no mention of age, sexe, etc.

Login, password (no other contact data, no email adress...)

*List of possible login shared at the beginning of the project*

LOGIN	MdP
ind001	6194
ind002	9862
ind003	3396
ind004	3216
ind005	9764
ind006	1463
ind007	273
ind008	8580
ind009	8142
ind010	9270
ind011	5104
ind012	9738
ind013	5556
ind014	8793
ind015	7500
ind016	560
ind017	5442
ind018	4559
ind019	6986





In subsaharian Africa, diabete is a new emerging desease with little cultural practice

### **Objectives :**

- To establish structured and shared exchanges about food, sport, and diabete treatment and symptoms
- Target participants: young (teenagers and adults) type I diabete (already identified and registered by Santé Diabète)
- Beyond health care, how to deal daily with this socialy difficult to live with desease?



## First ideas... why storing data?

« Each day is a new experience and an opportunity to learn about myself »

Let allow participants to store the story of their day: morning glycemia, every food intake, physical activities, how I feel, evening glycemia and insulin administration...

- ⇒ I want to store this information for a better understanding of myself
- ⇒ I can do it as many times I want
- ⇒ Particular interest in special day (eg, social event, sport event...)

First ideas... why sharing data?

The story of their day: morning glycemia, every food intake, physical activities, how I feel, evening glycemia and insulin administration...

- ⇒ Stick to sharing practices on social network  
(Instagram as a source of inspiration)
- ⇒ Allow to ask questions to the community based  
on shared data

*In case of acute health issues, the  
community manager (or other  
participants) signals the case to  
healthcare professional.*

First ideas... quality data

The story of their day: morning glycemia, every food intake, physical activities, how I feel, evening glycemia and insulin administration...


⇒ One criteria: checking that professional healthcare are eventually interested in the data


# Santé Diabète


**Une communauté de pratiques chez les jeunes DT1 : apprendre à vivre avec son diabète**


Journée complète : structurée et planifiée


Mes archives

 -Photo  
-Catégorie  
-Annotation


 -Photo  
-Catégorie  
-Annotation

 -Photo  
-Catégorie  
-Annotation


 -Photo  
-Catégorie  
-Annotation


 -Photo  
-Catégorie  
-Annotation


Donnée élémentaire :

 - Photo  
- Catégorie  
- Annotation

Place du village

 -Photo  
-Catégorie  
-Annotation


 -Photo  
-Catégorie  
-Annotation


 -Photo  
-Catégorie  
-Annotation

Les « story » à la une

Commentaires de la communauté, like, etc.

Salons thématiques de discussion contextualisée

 -Photo  
-Catégorie  
-Annotation

 -Photo  
-Catégorie  
-Annotation

Q1

Q2

Un réseau social sécurisée, sans données personnelles (login fourni par le professionnel de santé)

Un corpus de données pour la recherche



un centre de compétences



Mosaic, “methods and tools for Citizen Science” is a scientific unit assisting other researchers in developing their citizen science project.

It was created in 2020, based on the accumulation of experience within the Museum and Sorbonne University over the past 20 years.

Mosaic is a trans-faculty unit assisting projects in all scientific fields: humanities, medical research, environmental and natural history sciences.

It also assists project hold by other stakeholders: public agencies, private companies... that wishes to involve networks of contributor in data production.



un centre de compétences



Mosaic, “methods and tools for Citizen Science” is a scientific unit assisting other researchers in developing their citizen science project.

Mosaic assists emerging projects (incubation, co-conception: protocol stabilization, questioning motivation of future participants, considering other stakeholder involvement...),

It can develop proofs-of-concept, experimental projects, as well as assisting more mature projects, up to the conception and development of dedicated IT tools (including UX and UI design – full web team of 11 people).

About 15 projects benefited from it since 2020 and 15 more are scheduled in the coming 2 years. Mosaic is mostly financed by the research projects that are assisted, usually through research partnership.