Datami

**SHARE, SHOW AND CONTRIBUTE
TO DIGITAL COMMONS**

A customizable open source widget to visualize and edit open datasets

without any other backend than Github or Gitlab

Julien Paris

fullstack developer / lead dev of Datami

co-founder of tech cooperative multi

Help your publics with your data

What are the challenges ?

Challenge #1

Make your data intelligible

Your raw data
without Datami
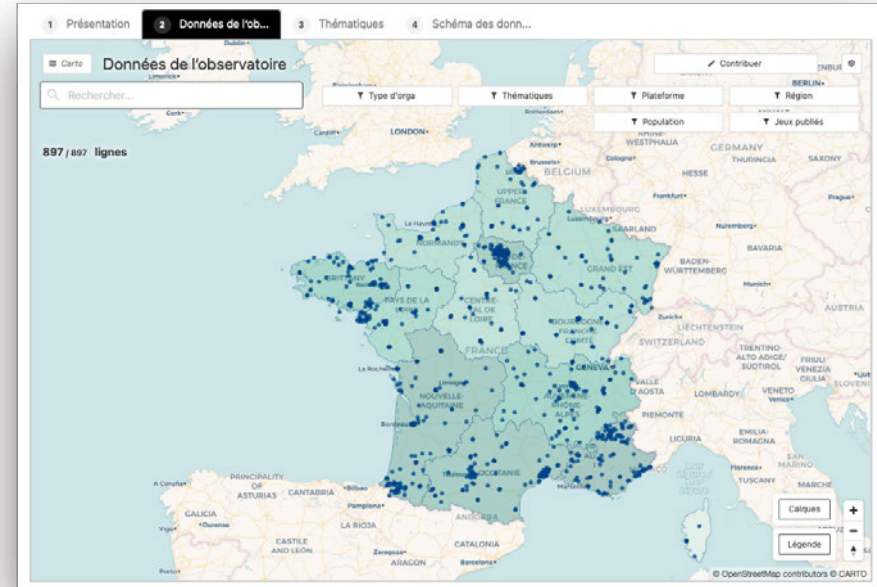
Your data enhanced
with Datami

Challenge #2

Make `updating` **and** `contributing` **easier**

Handling data is a matter of habits, facilitating their manipulation for the greatest number means that you have to adapt to the habits of the greatest number

To allow everyone to easily contribute to the data, the view in the form of a table is still the most commonly adopted today.

Challenge #3

Make all of the above with a tight budget

When you are a small or medium-sized structure (association, community, etc.) and you produce data of general interest, it can be complicated to highlight them on your site or to call on your community to put them up to date

Lack of resources, lack of skills, lack of time...

The cost of the usual technical solutions for sharing / viewing / contributing to data is often explained by the technical **complexity** of these functionalities

Another cost is related to the need to set up dedicated **servers** in *backend* or very specific configurations

The **maintenance** of applications or servers often generates significant costs

Datami's original architecture makes it possible to **get rid of a large part of these *backend* server costs** while allowing customization dataset by dataset

Enhance your open datasets with
Datami

3 . 2
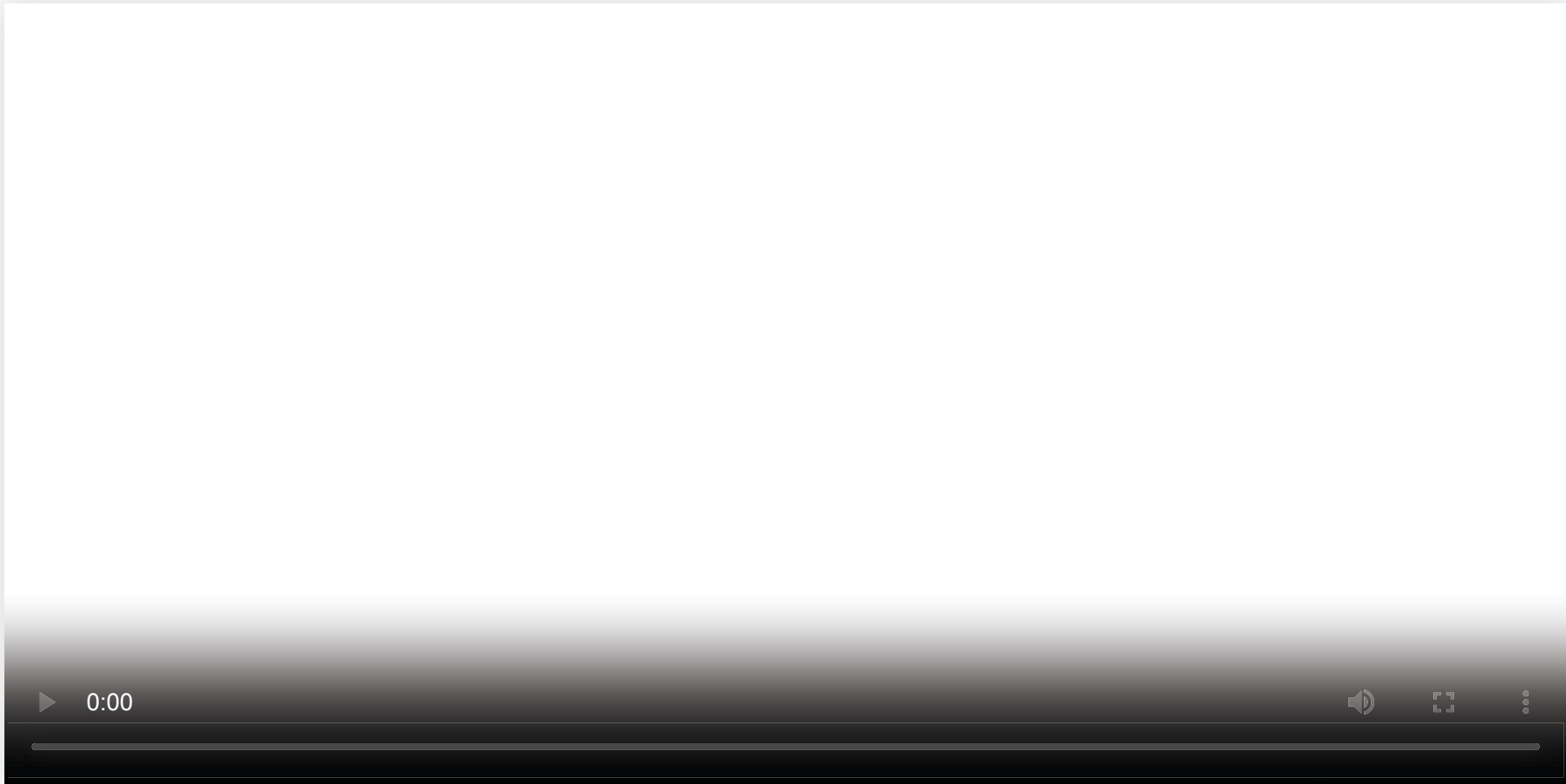
Your spreadsheets transformed into maps

Datami allows you to create **customized interactive maps**

Your territorial data can be visualized in geographical form, whatever their themes
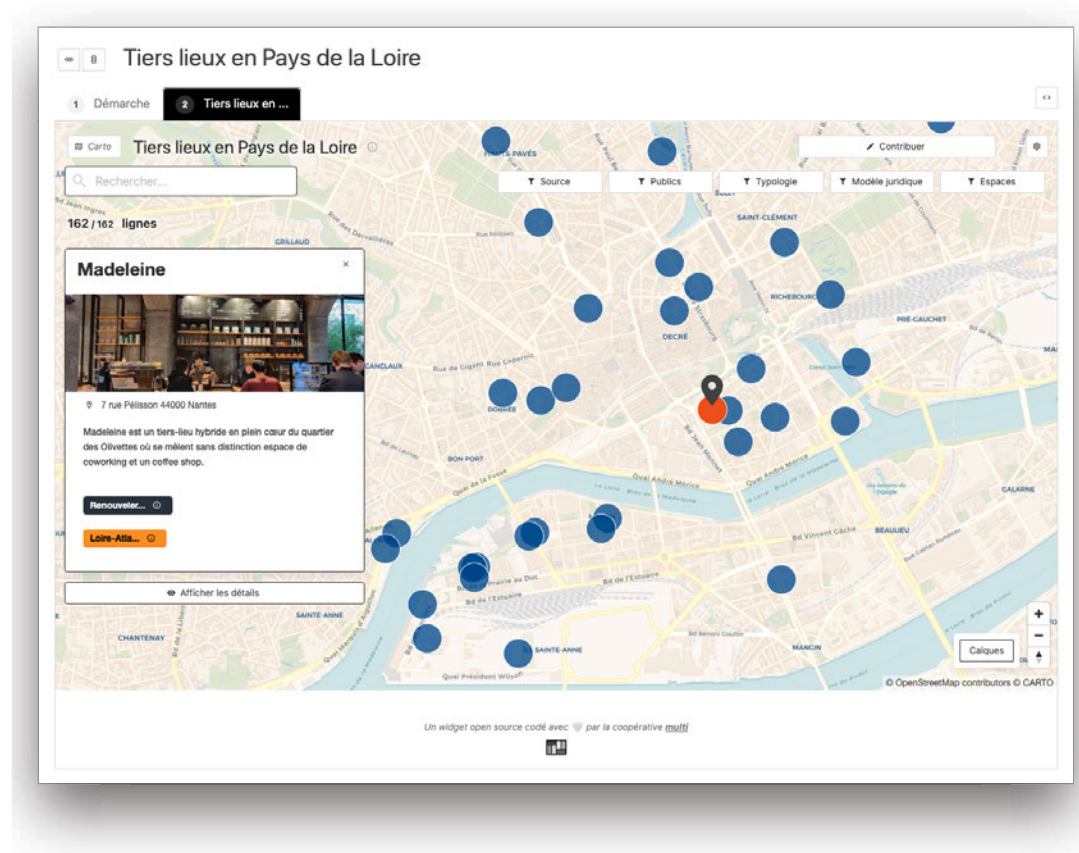
View your data from all angles

Your data can be viewed as **spreadsheets** , **maps** , miniature or detailed **lists of records** , or **graphs**

All views are interactive and customizable to highlight all the specifics of your data
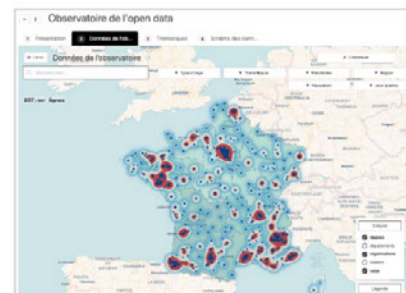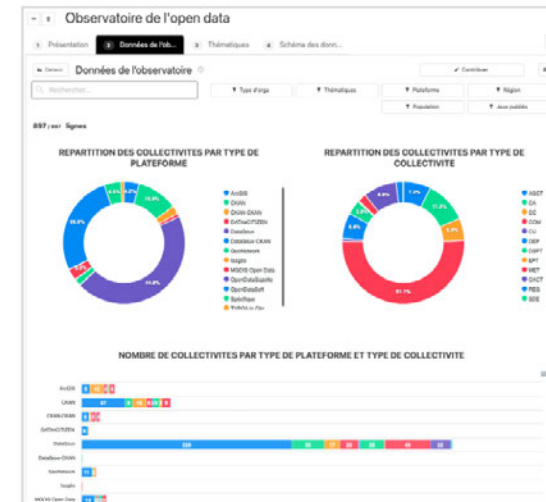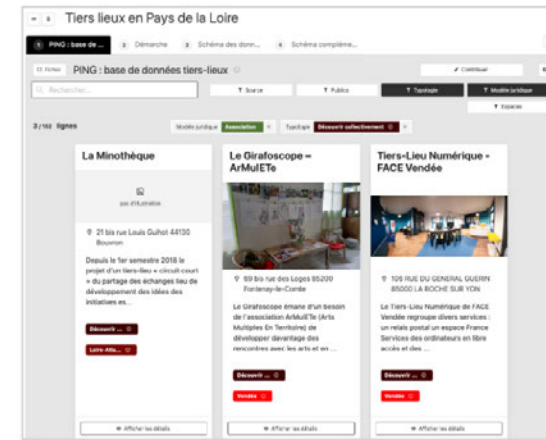
Adapt Datami
to your needs
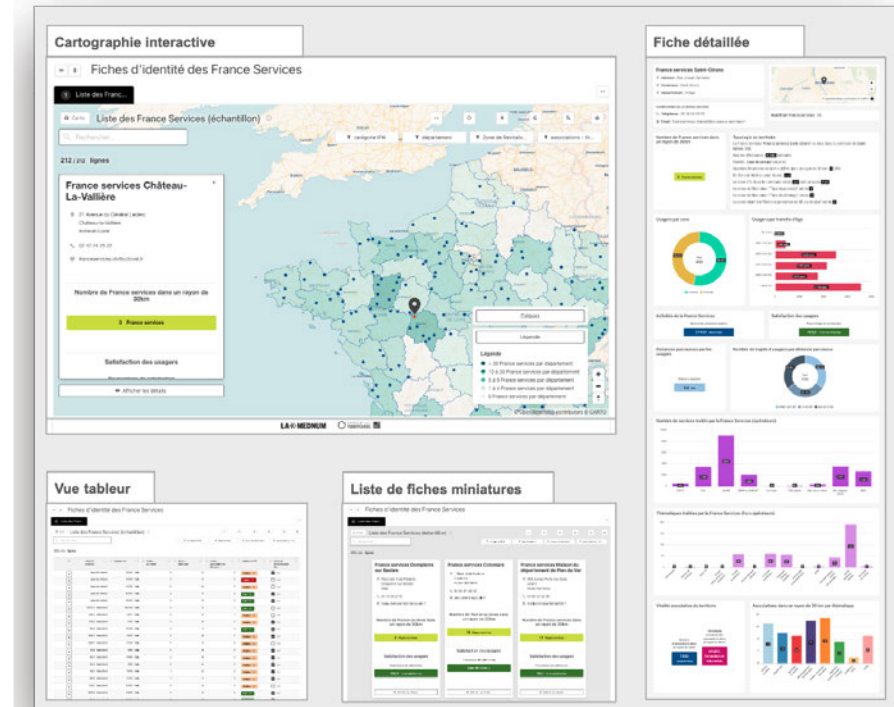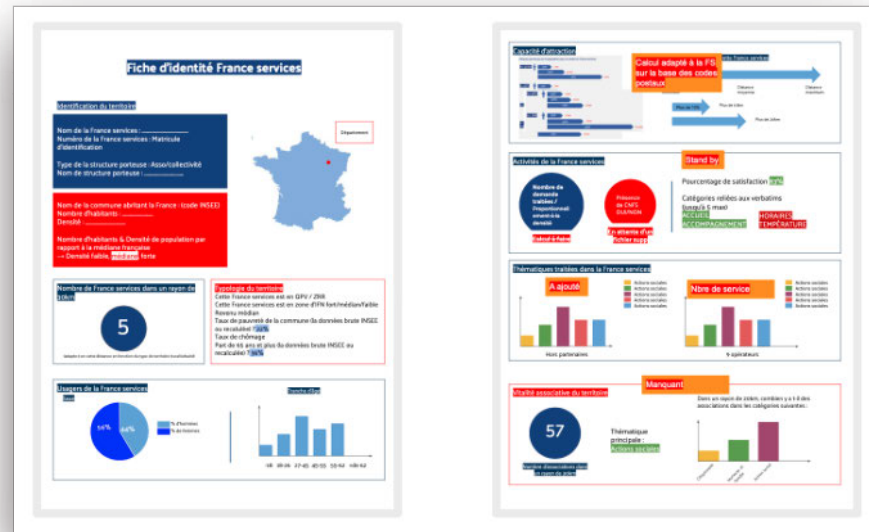
Your **sketches**
and your **datasets** ...

... implemented and enhanced
with **Datami**

You control your data
Datami makes it understandable

Datami's architecture is designed as an **interface between the citizen and your database** in order to facilitate the link **between citizens and open data producers**
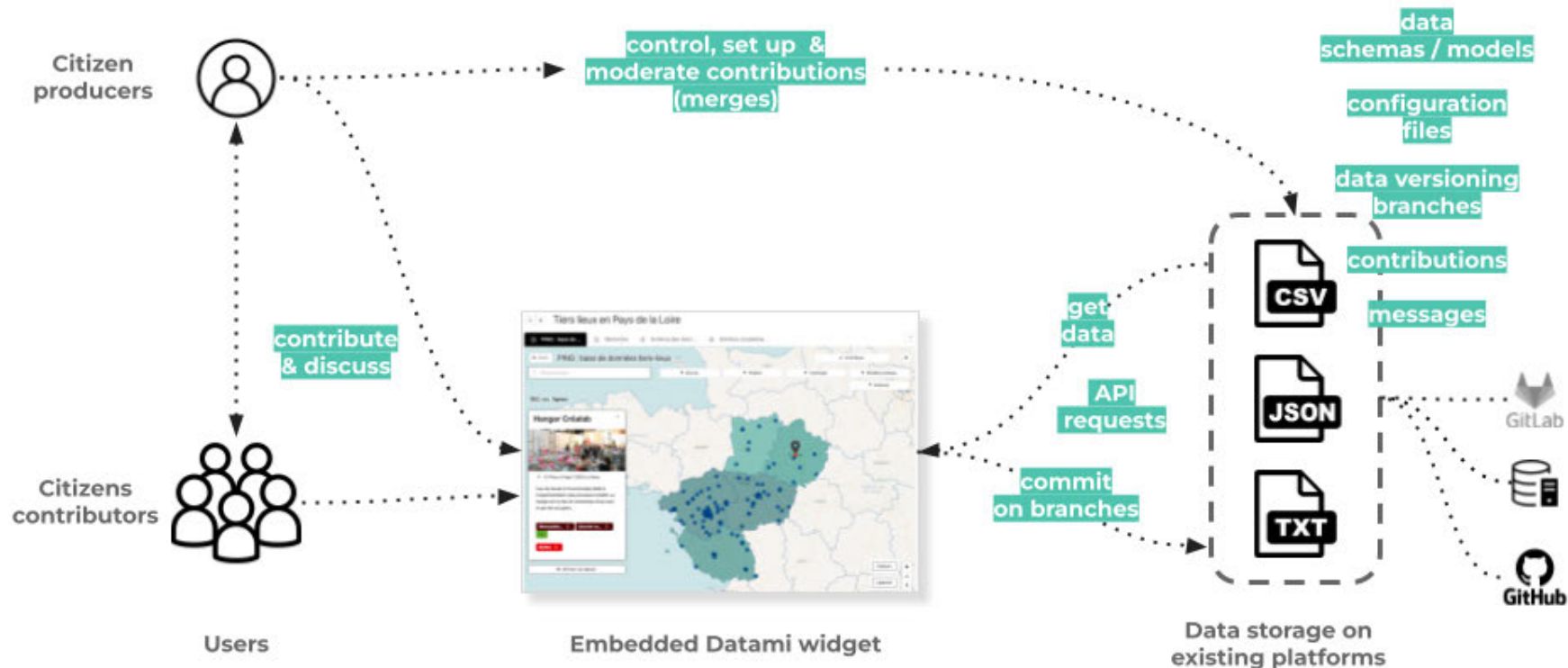
Datami doesn't store your data : your data stays within the tool of your choice (Github, Gitlab, database or API).

Using Datami is more **affordable** because you don't have to install nor maintain a dedicated *backend*.

Integrate Datami into your site and your partners

Datami uses **widgets** technology: turnkey and customizable modules that you can add to an existing site

Datami *widgets* are **open source**, simple to copy and paste, without subscription, **without additional cost**
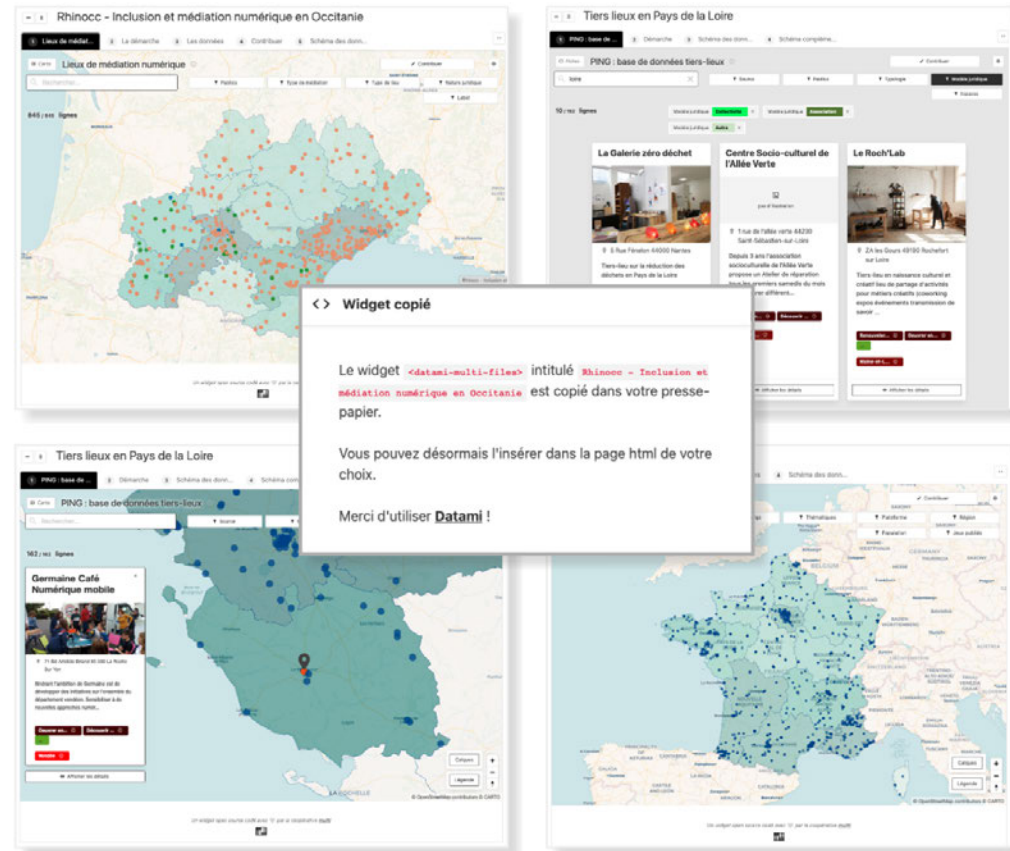
A simplified process
for contributory data updates

Empower your teams and audiences to improve data

Datami includes a **contribution and moderation system**

Based on the Git language, Datami *widgets* allow you to keep control of your data and manage contributions, **without creating an account** to suggest improvements
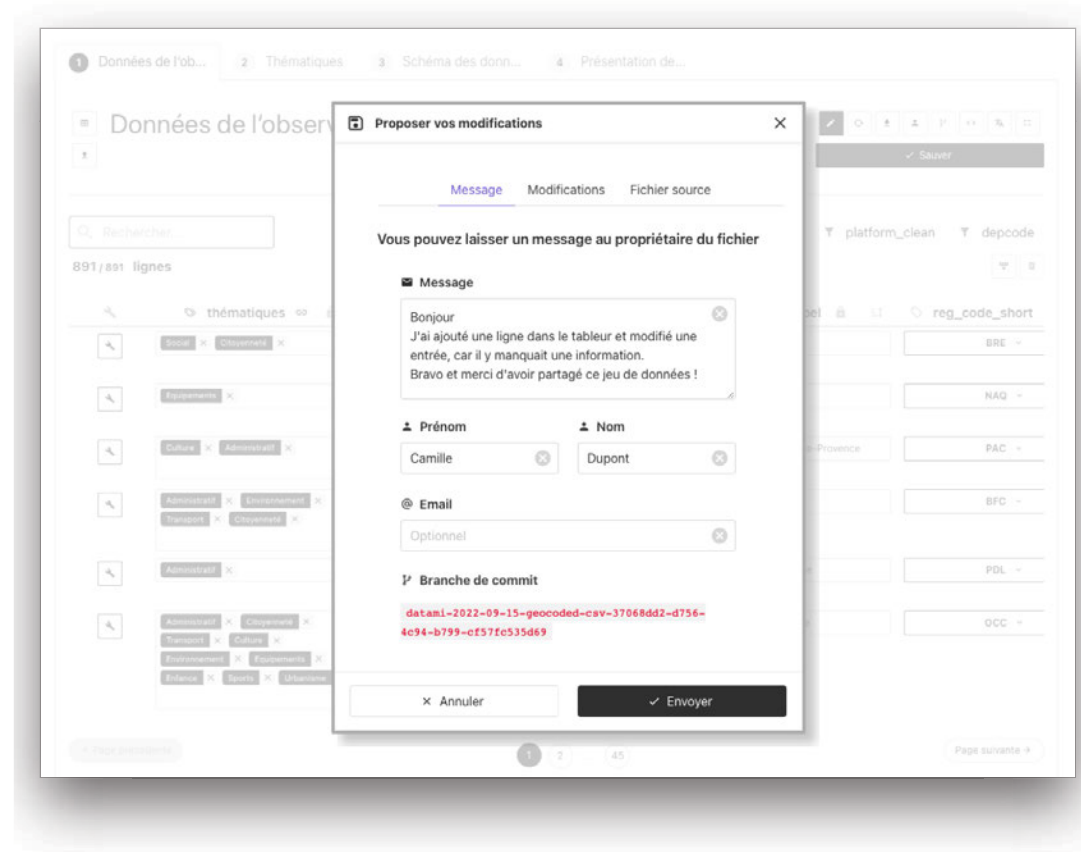
Structure your data to make it interoperable

Your data may be associated with files to structure it, such as data schema files

By associating your data set with a data schema respecting international standards you ensure that they can be correctly reused and improved

A management tool

Drive your field actions through data

Exploring your data allows you to better understand and manage your actions in the field

Datami allows you to set up personalized interactive data-visualizations, in order to make your data easily explorable
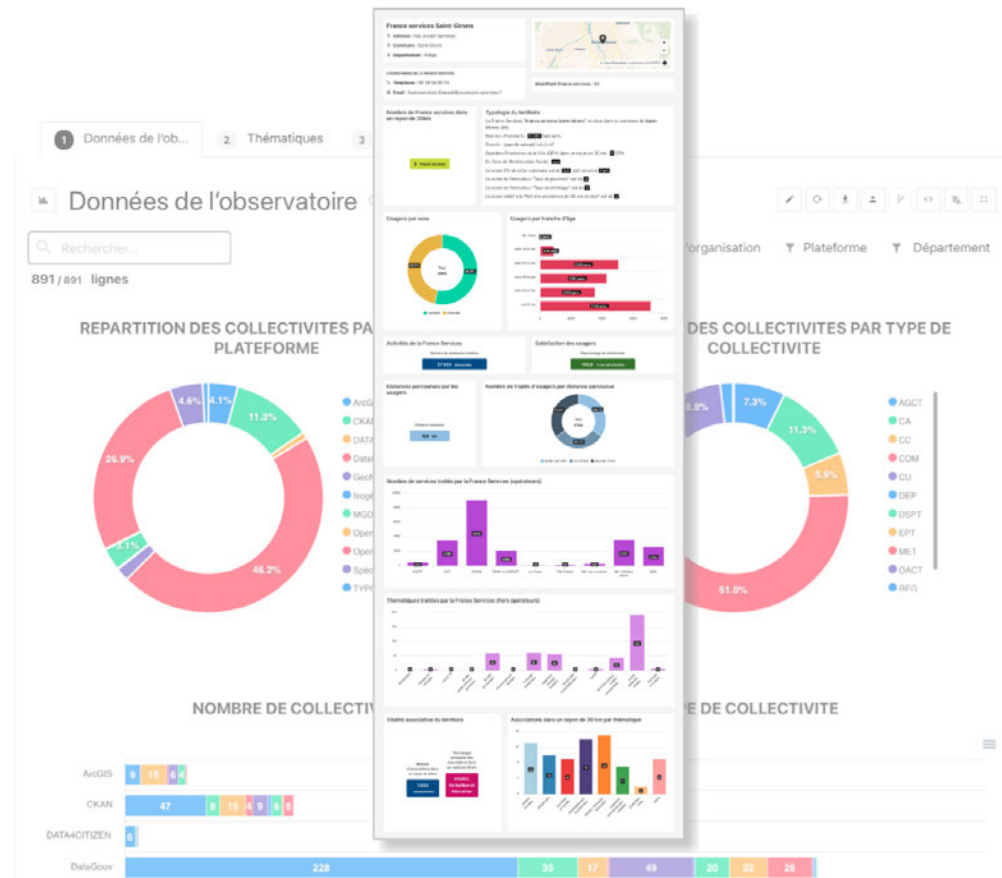
Discover the interfaces

An *open source* tool

A free and multi-purpose software

SHARE	VALORIZE	OPEN
Edition	Data visualisation	Analytics Matomo
Contribution	Customizable	Schemas
Moderation	Multi lingual	Open source
Integration	Free	Secure

Datami is fully auditable and reusable **free licensed software**

To discover and learn how to use Datami you can:

- Go to the official Datami website ;

- Directly access the Datami source code ;

- Consult the technical documentation and online tutorials;

- Call on the Multi cooperative for advice in data science and for training.

The official website

On our **official website** you will find **videos** of presentation, **examples**, as well as our **blog** space

The site is translated into French and English

🚀 datami.multi.coop
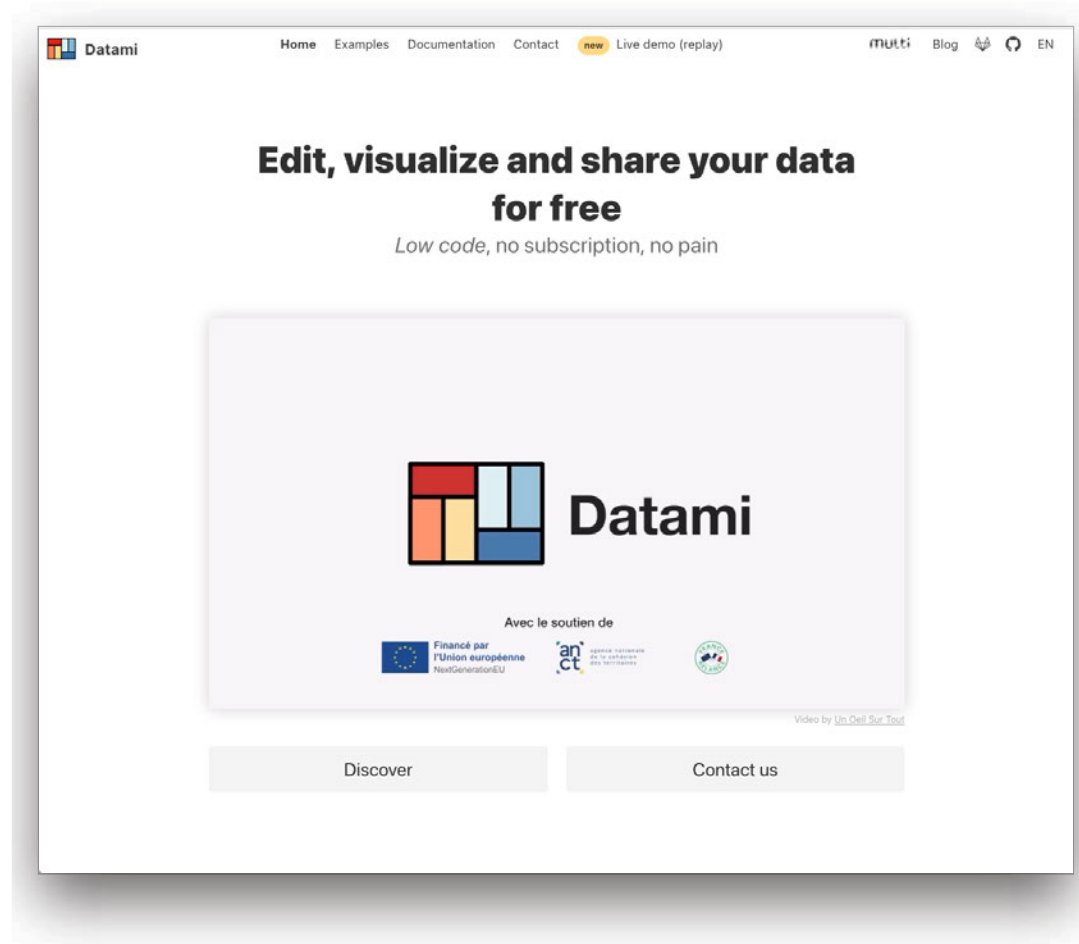
The source code

Our **source code is on Gitlab** under *open source* license

Do not hesitate to report *bugs* to us by suggesting *issues* , or to give ideas for new features on our *roadmap*

A mirror repo is also automatically synced to Github

Don't forget to leave a little ⭐ if you like the project!
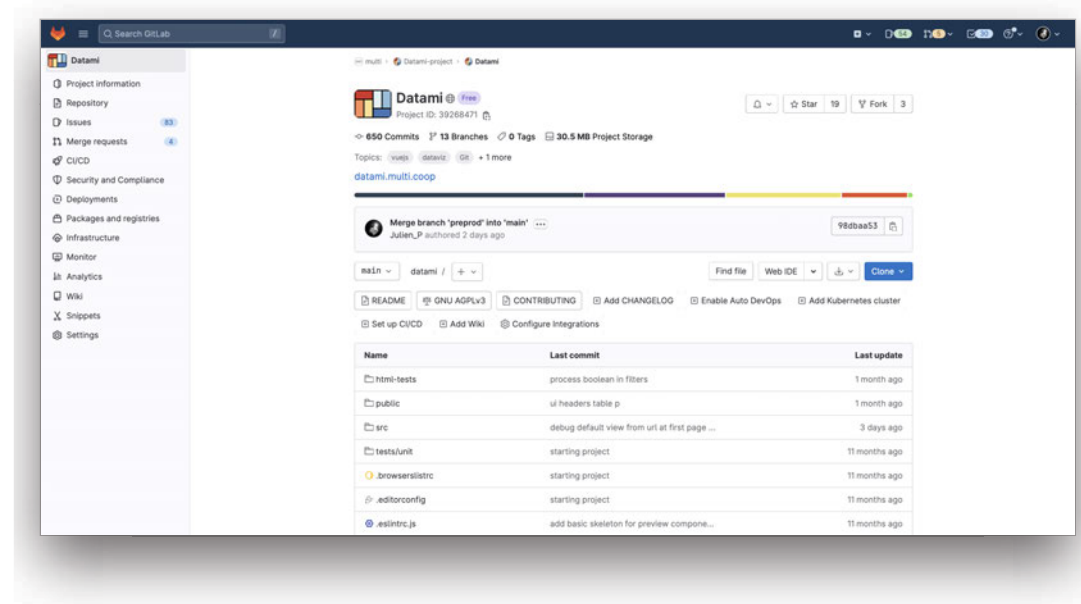
💻 Repo Gitlab
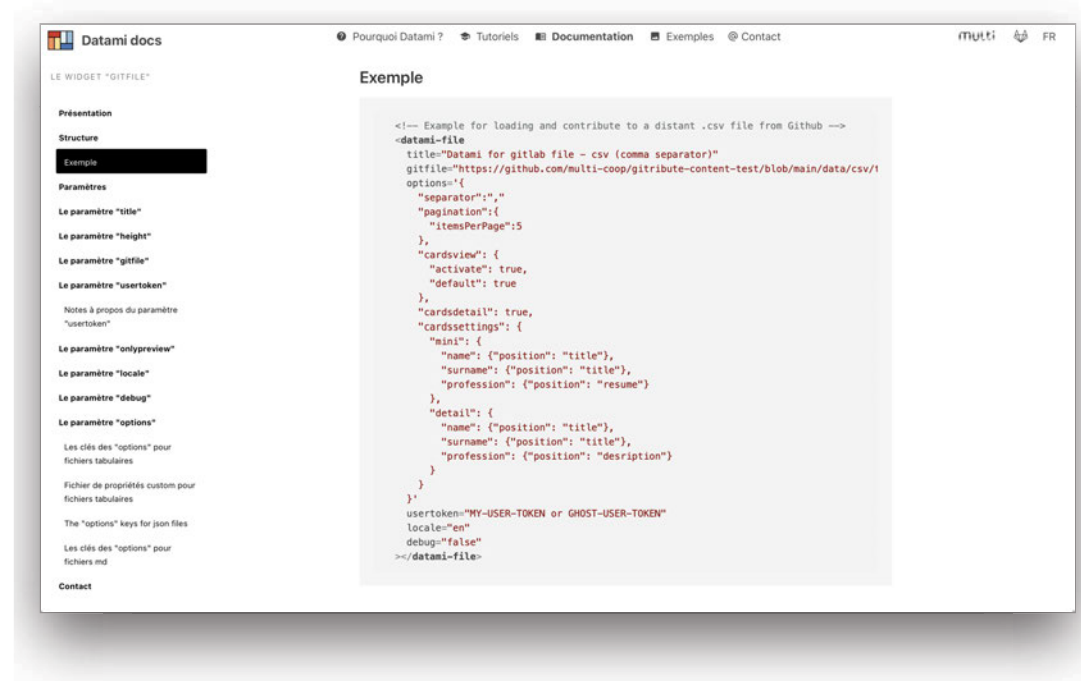
gitlab stars ★ 30

The technical documentation site

Also visit our dedicated
documentation site

The site is translated into French and English

You will find different sections there: technical principles, tutorials, examples, description of the different widgets and their configuration elements...

🔧 datami-docs.multi.coop

The *stack*

The technical *stack* is ==entirely composed of *open source* libraries==

- Vue.js (v2.x)
- VueX
- vue-custom-element
- gray-matter
- Showdown + showdown-table extension
- Bulma + Buefy
- Material Design
- Fetch
- JSDiff
- Diff2html
- MapLibre
- ApexCharts

Service offer

The Datami offer by the multi cooperative

In order to make Datami as accessible as possible, our principle is to **share design and development costs**

All developments - even minimal ones - contributing to improving Datami thus ultimately benefit all users.

Datami setup

Free software

Custom developments

Setting up Datami
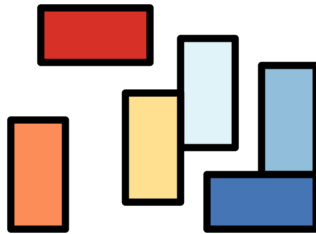
We offer an **economic package of a few days** only for support in setting up Datami

We can help you configure Datami and advise you in your data recovery project

Free software

Datami is a **_100% open source_** tool

You can use Datami as it is based on the documentation, you are free!

Custom Developments
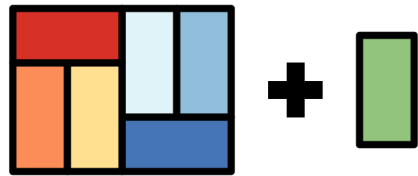
Do not hesitate to contact us to tell us about **your needs** to establish a personalized quote

We are committed to continuing to develop and improve Datami, and we also offer services in *data science* and *data engineering*

Installation guide

The source code

Clone the source code from Datami's Gitlab repo

```
git clone git@gitlab.com:multi-coop/datami-project/datami.git
```

Then navigate to the folder

```
cd datami
```

Installation

Install `npm 8.3.2` ...

```
npm install -g npm@8.3.2
```

... or use `nvm`

```
brew install nvm # sur mac
nvm use
```

Install the dependancies

```
npm install
```

Create a local `.env` file based on `example.env`

```
cp example.env .env
```

Run Datami

Run the script

```
npm run serve
```

In your browser

```
http://localhost:8080
```

Datami *widgets* examples list

Run the local server

```
nvm use
npm run http
```

In your browser

```
http://localhost:8180/html-tests/
```

Benchmark

There are several data visualization and editing solutions
sharing similarities with Datami

Here are some of the most popular solutions

Those benchmarks are given for information only

Do not hesitate to let us know by writing to
contact@multi.coop
if you wish to make any corrections or additions

Datavisualisation tools

Solution	Solution type	Langages	Difficulty	Saas	Official website
Gogocarto	Open source	Custom	Easy	Yes	https://gogocarto.fr/projects
Umap	Open source	Custom	Facile	Yes	https://umap.openstreetmap.fr/
Lizmap	Open source	Propre langage de requête	Medium	Yes	https://www.lizmap.com
Apache Superset	Open source	SQL	Medium	Yes	https://superset.apache.org/
Apache Zeppelin	Open source	Several programmation languages	Hard	No	https://zeppelin.apache.org/
BIRT	Open source	Java, JavaScript	Hard	No	https://www.eclipse.org/birt/
FineReport	Open source	Java, JavaScript	Medium	No	https://www.finereport.com/en
Grafana	Open source	Custom request language	Hard	No	https://grafana.com/
Metabase	Open source	SQL	Easy	Yes	https://www.metabase.com/
Redash	Open source	SQL	Medium	No	https://redash.io/
Datasette	Open source	SQL	Medium	No	https://datasette.io/
LightDash	Open source	Dbt	Medium	Yes	https://www.lightdash.com/
Google Data Studio	Free (but not open)	SQL	Easy	Yes	https://datastudio.google.com/
Datawrapper	Commercial	API, CSV, GSheet	Easy	Yes	https://www.datawrapper.de/
Google Looker	Commercial	LookML	Hard	Yes	https://looker.com/
Microsoft Power BI	Commercial	DAX et M	Medium	Yes	https://powerbi.microsoft.com/
QlikView	Commercial	Custom script language	Hard	Yes	https://www.qlik.com/
Tableau	Commercial	Custom	Medium	Yes	https://www.tableau.com/

Online editing tools

Solution	Solution type	Langages	Difficulty	Saas	Targeted public	Official webiste
Apache Zeppelin	Open source	Scala, Python, R, SQL	Hard	No	Developers and professional users	https://zeppelin.apache.org/
Baserow	Open source	Python, Javascript, Vue.js	Moyen	Yes	Developers and professional users	https://baserow.io/
Grist	Open source	Python	Easy	Yes	Businesses, non-profit organizations, governments, universities, researchers	https://getgrist.com/
Metabase	Open source	Java, Clojure	Medium	Yes	Startups, businessees, non-profit organizations	https://www.metabase.com/
LockoKit	Open source	...	Medium	No	Developers and professional user	https://locokit.io/
NoCodB	Open source	Javascript, Node.js	Easy	Yes	Developers and professional users	https://nocodb.com/
Gsheet	-	None	Easy	Yes	Companies, teams, freelancers, SMEs	https://www.google.com/sheets/about/
Airtable	Commercial	None	Easy	Yes	Companies, teams, freelancers, SMEs	https://airtable.com/
Qlikview	Commercial	None	Medium	Yes	Large corporations, financial institutions	https://www.qlik.com/us/

Benchmark features

Among all the solutions we have just listed, some can be compared with **Datami**'s main features.

Solution	Open source	Readyness	Table view	Cards view	Map view	Dataviz view	Edition	Moderation	Configuration interface	Data sources	Backend	Widget	Official website
Datami	✅	⭐⭐	✅	✅	✅	✅	✅	✅	❌ (for now)	API ext. (Git)	Git platforms / APIs	✅	Website
Metabase	✅	⭐⭐	✅	?	✅	✅	⚠️	❌	✅	SQL, connectors	server / APIs	✅	Website
Gogocarto	✅	⭐⭐⭐	✅	✅	✅	❌	✅	❌	✅	proper	server / APIs	✅	Website
Lizmap	✅	⭐	⚠️	❌	✅	✅	✅	❌	✅	proper	server / ?	✅	Website
Umap	✅	⭐⭐⭐	❌	❌	✅	❌	✅	❌	✅		server / ?	✅	Website
Grist	✅	⭐	✅	✅	❌	❌	✅	?	✅	SQL	server / APIs	❌	Website
Baserow	✅	⭐⭐	✅	✅	❌	❌	✅	?	✅	SQL	server / ?	❌	Website
LockoKit	✅	⭐⭐	✅	❌	❌	❌	✅	?	✅	proper	server / ?	❌	Website
NoCodB	✅	⭐	✅	❌	❌	❌	✅	?	✅	SQL	server / ?	❌	Website
Apache Superset	✅	⭐⭐	✅	❌	❌	✅	✅	?	✅	SQL	server / Saas	?	Website
Datawrapper	🔒	⭐⭐⭐	✅	?	✅	✅	❌	❌	✅	SQL, connectors	Saas	✅	Website
Airtable	🔒	⭐⭐⭐	✅	✅	❌	⚠️	✅	⚠️	✅	proper, connectors	Saas	✅	Website
Gsheet	🔒	⭐⭐⭐	✅	❌	❌	✅	✅	✅	✅	proper, connectors	Saas	✅	Website

The ❓ indicates the information is to be completed
The ⚠️ that the functionality can be implemented either in a roundabout way or as a hack

Although these solutions share some features with Datami , they can differ significantly in terms of cost, complexity and specific features

It is important to take into account the **specific needs of each project** before choosing the most suitable online data visualization and editing solution

Technical roadmaps

Here is a list of different features
that reflect requests and needs
from our users to date.

This roadmap is to be taken as a *whish list* of features that we consider interesting and compatible with Datami, and that we would like to be able to develop **if we manage to find the corresponding funding** .

The features' developments are described as follow :

- **Milestone** : family of features
- **Features** : feature to develop
- **Priority** (🔴) : importance given to the feature by the users
- **Difficulty** (▪) : anticipated comlexity of the feature
- **Dev. + man.** : sum of development and management (in days per person)

Technical roadmap 2023 - global

Classified by milestones

Milestones	Priority		Difficulty	Dev + man.
More data sources	🔴	high	▪ easy	38 days
Online widget configuration	🔴	high	▪▪▪ hard	26 days
Manage contribution widget	🔴	high	▪▪▪ hard	25 days
Protect widget with password	🟠	medium	▪ easy	12 days
Better UX - data management	🟡	low	▪▪ medium	42 days
Better UX - data interaction	🟡	low	▪▪ medium	44 days
Better UX - maps	🟡	low	▪▪ medium	37 days
Better UI - customization	🟠	medium	▪ easy	13 days
Better UI - new views	🟡	low	▪▪ medium	27 days
Refactoring	🟠	medium	▪▪▪ hard	48 days
Tests	🟡	low	▪▪▪ hard	18 days
			TOTAL	330 days

Diagram of future developments

Elements in `orange` symbolize the main milestones to be developped as described in the roadmap above.

Elements colored in `turquoise` symbolize features already existing in Datami.

- A : **Online widget configuration**
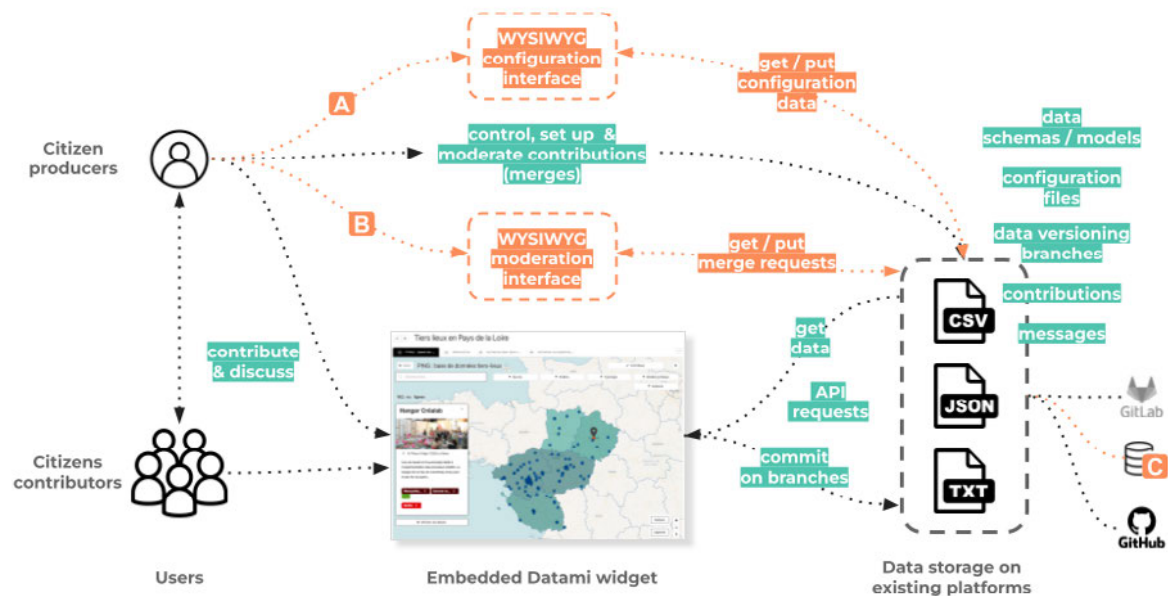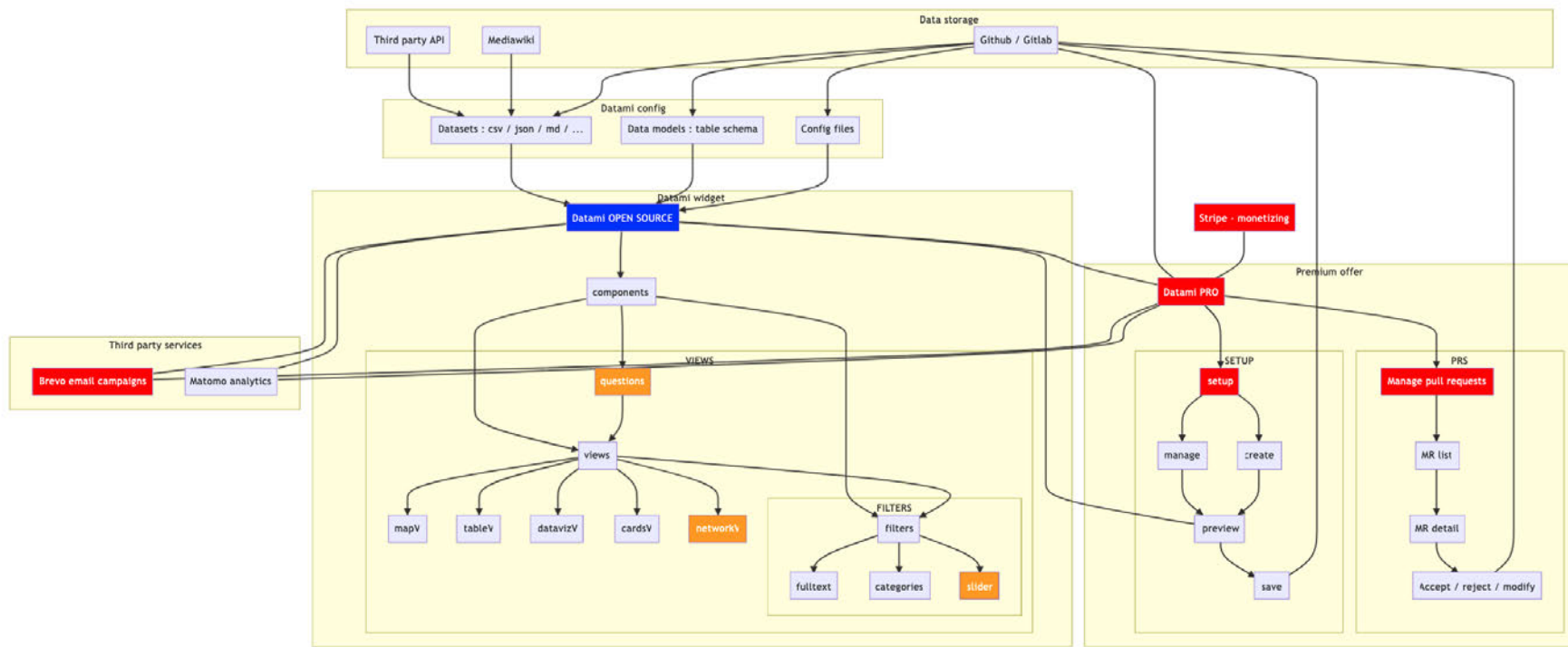- B : **Manage contribution widget**
- C : **More data sources**

Diagram of future developments (mermaid)

A more complete version of the previous diagram

Technical roadmap - detailed 1/2

Milestones	Features	Priority	Difficulty	Dev + man.
More data sources	Connect to external APIs - generic	🔴 high	▪ easy	5 days
More data sources	Connect to external APIs - OSM	🟡 low	▪ easy	5 days
More data sources	Activity pub integration	🟡 low	▪▪▪ hard	18 days
More data sources	Connector to SourceForge	🟡 low	▪▪▪ hard	5 days
More data sources	Connector to BitBucket	🟡 low	▪▪▪ hard	5 days
Online widget configuration	Interactive interface + preview	🔴 high	▪▪▪ hard	20 days
Online widget configuration	Save new config to git repo	🔴 high	▪▪ medium	6 days
Manage contribution widget	Interface loading last PRs from repo	🔴 high	▪▪▪ hard	15 days
Manage contribution widget	Accept / moderate PR + messages	🔴 high	▪ easy	10 days
Protect widget with password	Protect access before showing widget	🟠 medium	▪ easy	6 days
Protect widget with password	Special token for protected widget	🟠 medium	▪▪ medium	6 days
Better UX - data management	Add a new column + update schema	🟠 medium	▪▪ medium	10 days
Better UX - data management	Drag & drop CSV to widget	🟡 low	▪▪ medium	10 days
Better UX - data management	Save CSV file to Git repo	🟡 low	▪▪ medium	4 days
Better UX - data management	Add / drag-drop a picture in a cell	🟡 low	▪▪ medium	6 days
Better UX - data management	Cache user changes / branch untill pushing	🟠 medium	▪▪▪ hard	12 days
Better UX - data interaction	Full screen - debug	🟠 medium	▪▪ medium	6 days
Better UX - data interaction	Range filter	🟡 low	▪ easy	4 days
Better UX - data interaction	Change width column	🟠 medium	▪▪ medium	8 days
Better UX - data interaction	Helper at loader	🟡 low	▪ easy	2 days
Better UX - data interaction	Better integration of Frictionless data packages	🟡 low	▪▪▪ hard	12 days
Better UX - data interaction	Export as pdf	🟡 low	▪▪▪ hard	12 days
Better UX - maps	Inject data to vector tiles on map view	🟡 low	▪▪ medium	8 days

Technical roadmap - detailed 2/2

Milestones	Features	Priority	Difficulty	Dev + man.
Better UX - maps	Add or edit geojson objects	🟡 low	▪▪▪ hard	**29 days**
Better UI - customization	Custom styles / CSS / logos	🟠 medium	▪ easy	**4 days**
Better UI - customization	Accessibility	🟠 medium	▪▪ medium	**9 days**
Better UI - new views	Agenda view	🟡 low	▪ easy	**8 days**
Better UI - new views	Graphs view with D3js	🟡 low	▪▪ medium	**10 days**
Better UI - new views	Simultaneous dataviz + map on same view	🟡 low	▪▪ medium	**9 days**
Refactoring	Put all git* requests into a package	🟡 low	▪▪▪ hard	**15 days**
Refactoring	Migration to Typescript	🟠 medium	▪▪▪ hard	**15 days**
Refactoring	Migration to Vue3	🟡 low	▪▪▪ hard	**18 days**
Tests	Add functional & unit tests	🟡 low	▪▪▪ hard	**18 days**

Technical roadmap - global

Classified by priority / difficulty

Priority / Difficulty	▪▪▪ hard	▪▪ medium	▪ easy	TOTAL
🔴 high	35 days	6 days	15 days	**56 days**
🟠 medium	27 days	39 days	10 days	**76 days**
🟡 low	132 days	47 days	19 days	**198 days**
TOTAL	**194 days**	**92 days**	**44 days**	330 days

Credits

A project by the multi cooperative

Our cooperative contributes to the development of **digital commons** and associated services, by bringing together a community of professionals working for a **digital of general interest**

🚀 https://multi.coop

Our first users

Our sponsors

Datami was laureate of the Plan France Relance 2022
and has benefited from the support of the following organizations

Thanks for your attention !

Datami

is a project led by the cooperative

multi

contact@multi.coop

[Slides source](#)