

Monitoring OpenStreetMap contribution topics with Podoma

Progress



FOSDEM'26

FOSDEM Geospatial
31st January 2026

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lacombef

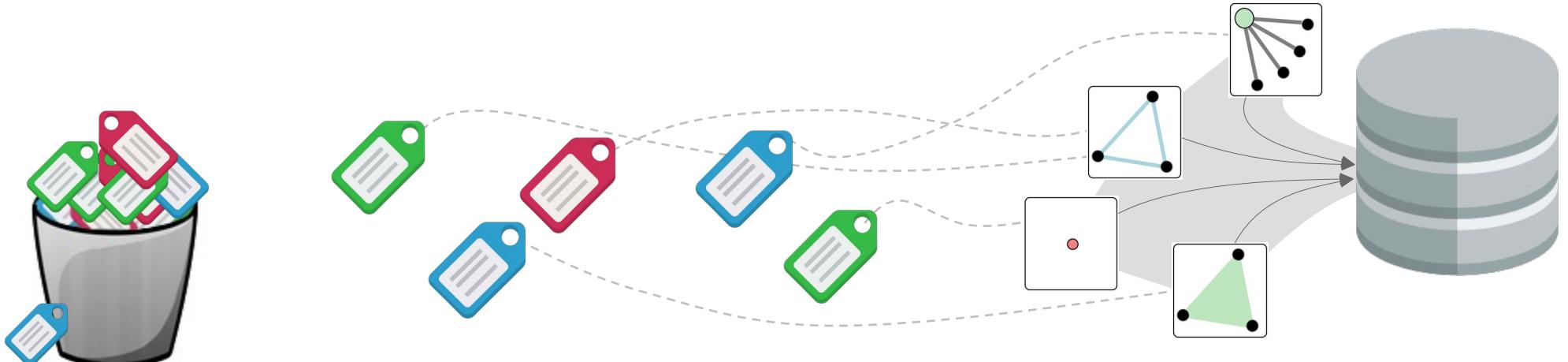


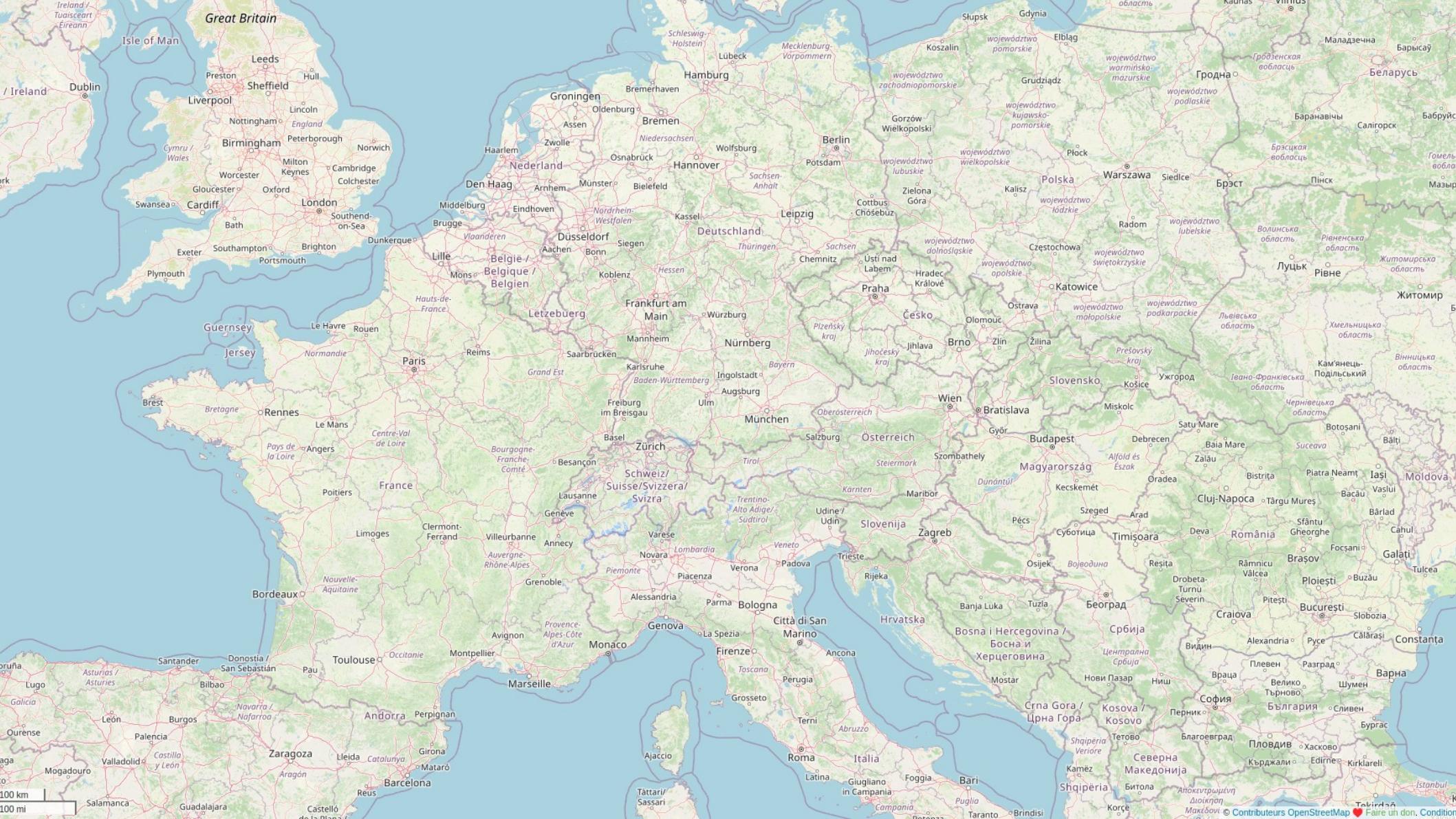
OpenStreetMap features

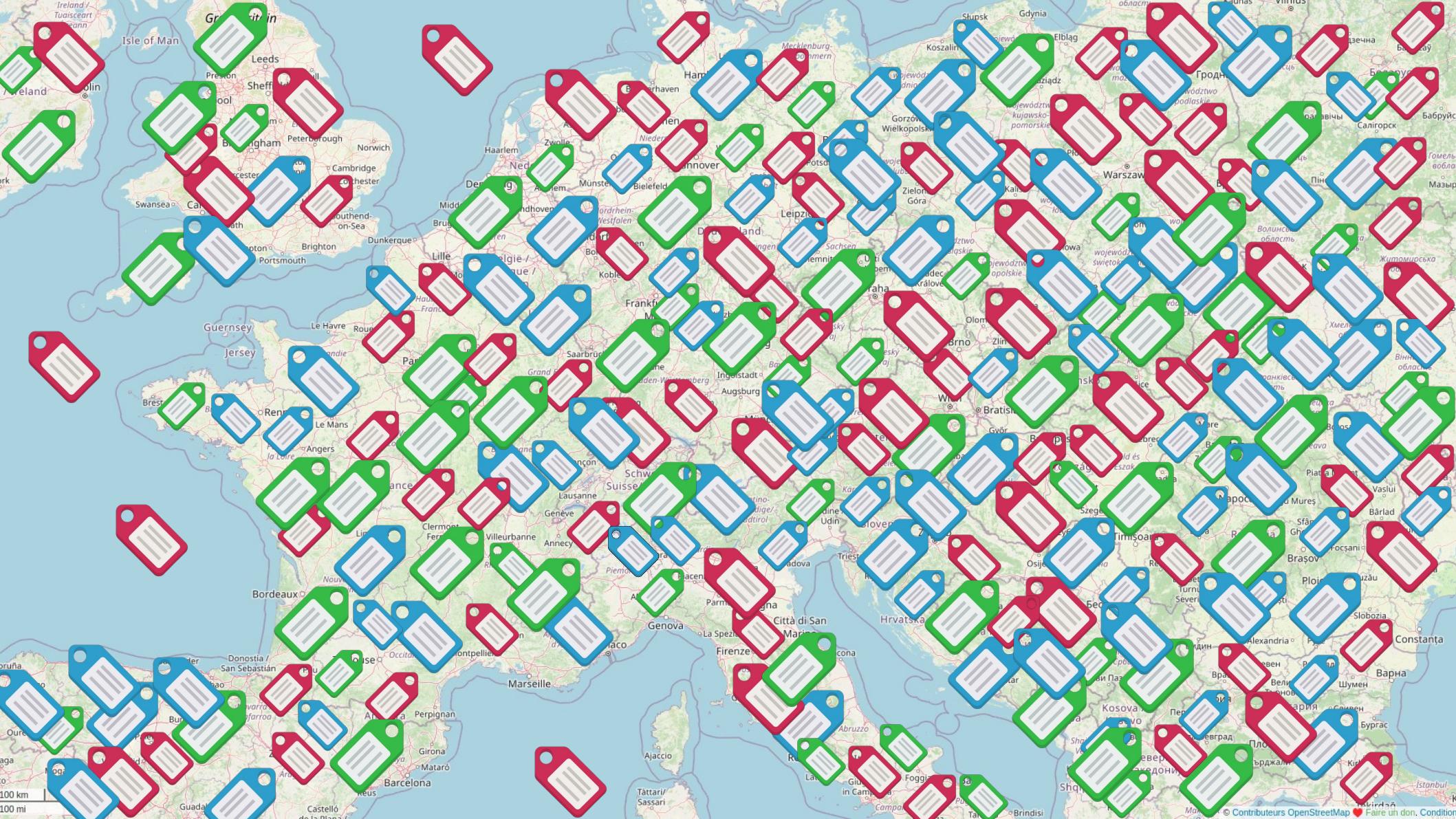
OpenStreetMap comes with nodes, ways, relations and... many many tags.

Its datamodel remained almost the same since the begining in 2004.

Tagging has evolved significantly.



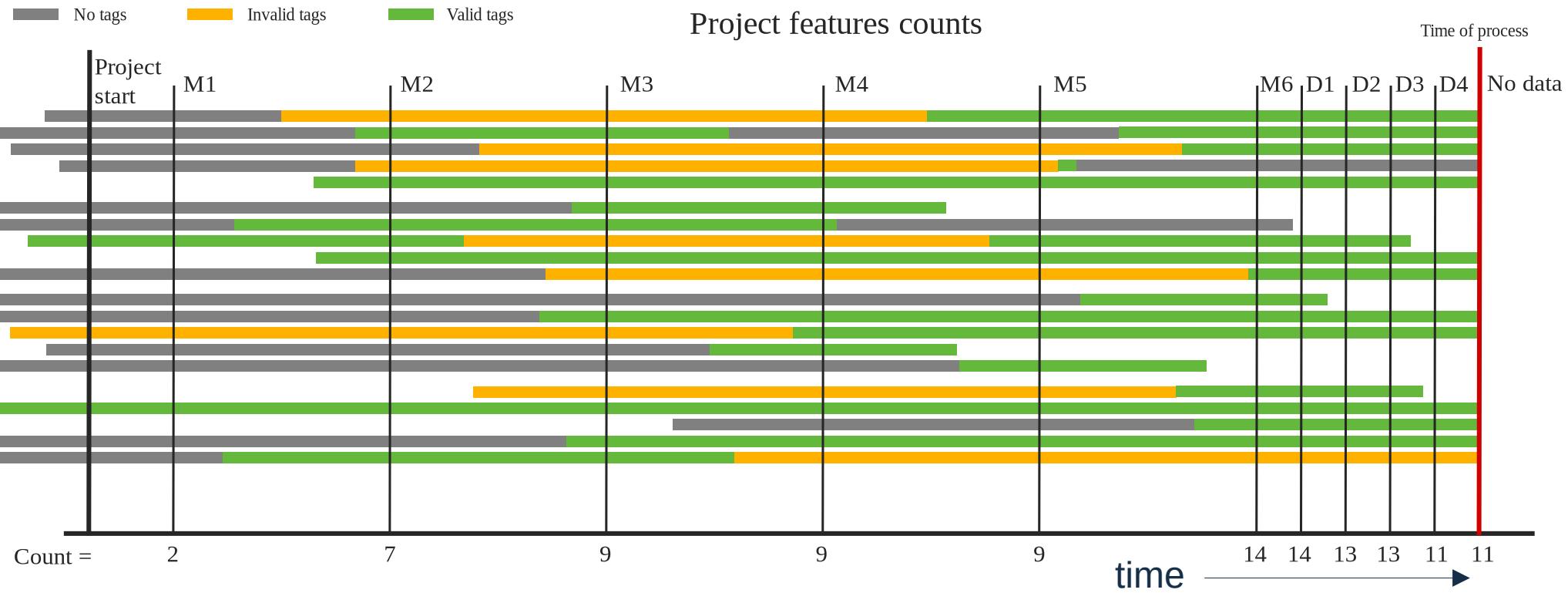




OpenStreetMap changes

Contributors continuously add or change tags, create or delete features to produce several versions of existing objects. It is possible to revert changes at any time.

Let's say you run a project on a particular topic, filter features according to their tags, here you go:



OpenStreetMap statistics

Several solutions already exist to get some measurements and statistics. Here are a few:

However, we miss a daily-updated **topic focused** platform

Copyright © Pascal Neis | Statistics of the free wiki world map (OpenStreetMap.org) | Map data © OpenStreetMap contributors | More? ResultMaps - overview

OSMStats About: Trends Members Elements Countries Changesets Boards Date: 10 1 2026

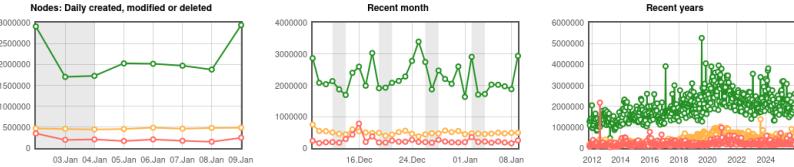
Latest Node: 13446652655 Way: 1466055744 Relation: 20067341 (Changeset: 177070424 @ 2026-01-10 17:39:52 UTC)

Report run @ Jan, 10th 2026 3:03am CET

Nodes: Daily created, modified or deleted

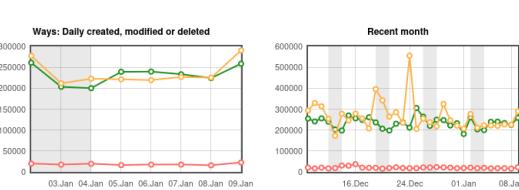
Recent month

Recent years



Ways: Daily created, modified or deleted

Recent month

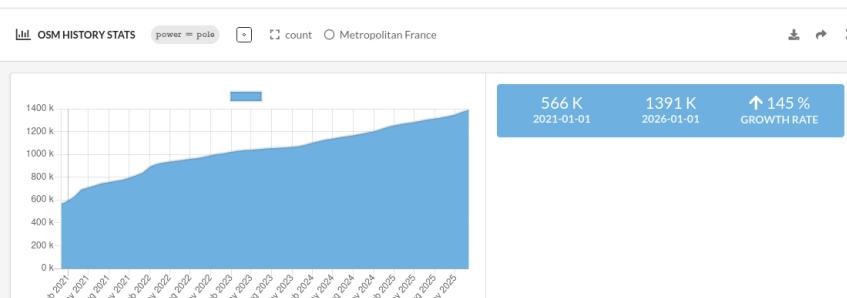


OSMStats by Pascal Neis

ohsome DASHBOARD OSM History Analyzer Easy access to OSM History and Quality Analyses

Result Log

OSM HISTORY STATS power = pole count Metropolitan France



566 K 2021-01-01 1391 K 2026-01-01 ↑ 145 % GROWTH RATE

taginfo

KEYS · TAGS · RELATIONS · PROJECTS · REPORTS · SOURCES · ABOUT

power=tower

A tower or pylon carrying high voltage electricity cables. Often constructed from steel latticework but tubular or solid pylons are also used.

Overview Combinations Chronology Map Wiki Projects Characters

Overview

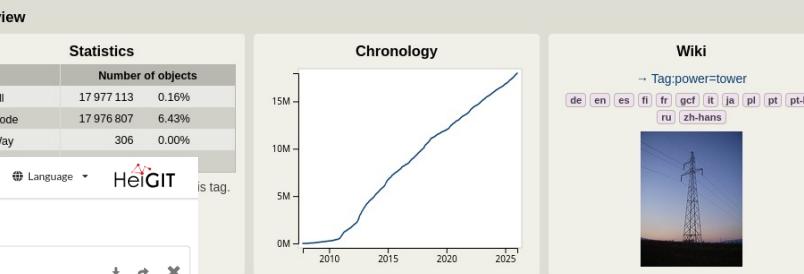
Type	Number of objects
All	17 977 113 0.16%
Node	17 976 807 6.43%
Way	306 0.00%

Chronology

Wiki

→ Tag:power=tower

de en es fi fr gcf it ja pl pt pt-br ru zh-hans



Taginfo by Jochen and Christian Topf

Podoma

Created in 2020
OSM-France projects of
the month

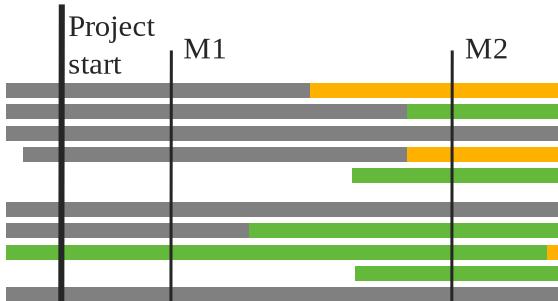
Slightly extended
OSM-France partnerships

Scaling up to world
MapYourGrid initiative

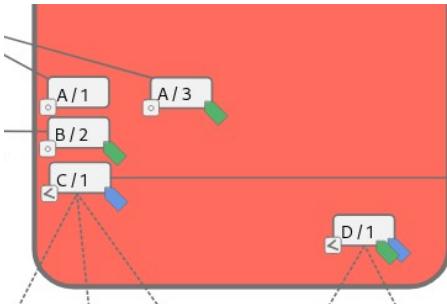
To be
continued

Automates OSM processing:

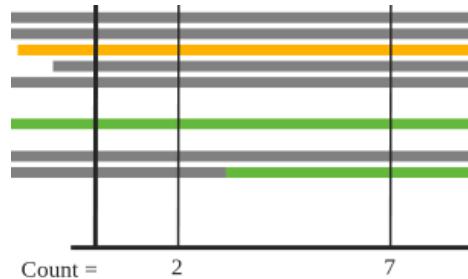
OSM change log maintenance



Feature labeling



Counting



- Init once from OSH data
- Updated daily on filtered diffs
- Completed with **Overpass API**

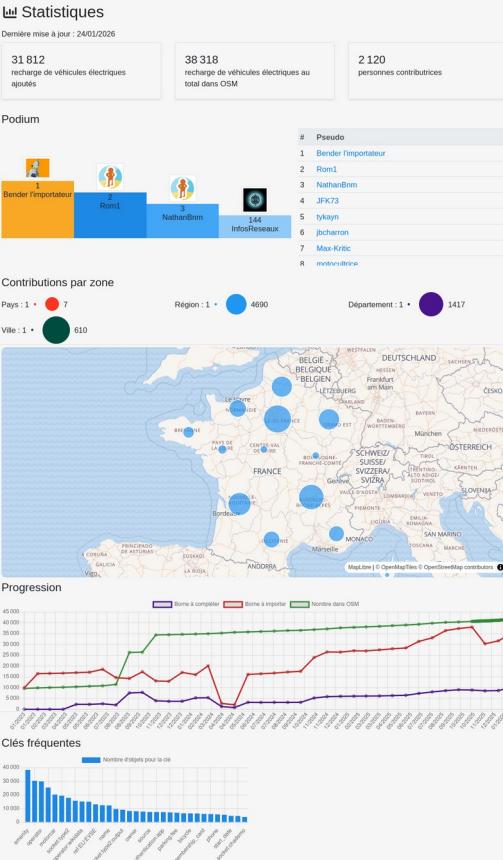
- Broad select with **Osmium**
- Get more selective filters with PgSQL / JSON path language

- Fast counting from changelog
- Features, contribution and mappers counts

- Custom boundary and teams definition
- Nested boundaries

Podoma

Web dashboard



API

```
▼ data:  
  ▼ 0:  
    x: "2024-01-01T00:00:00.000Z"  
    ▼ labels:  
      ▼ distribution:  
        amount: 115874  
        length: "286769760.368422"  
        area: "545662230.084512"  
      ▼ transmission:  
        amount: 662250  
        length: "4383114901.96195"  
        area: "37314546.1644793"  
      ▼ transmission_overhead:  
        amount: 643517  
        length: "4337750818.5848"  
        area: "36586614.6658449"  
    amount: 970963  
    length: "5292783046.90086"  
    area: "687249448.158295"  
  ▼ 1:  
    x: "2024-02-01T00:00:00.000Z"  
    ▼ labels:  
      ▼ distribution:  
        amount: 118242  
        length: "291347161.425342"  
        area: "545657840.9636"  
      ▼ transmission:  
        amount: 669096  
        length: "4401656152.3561"  
        area: "37435916.412967"  
      ▼ transmission_overhead:  
        amount: 650201  
        length: "4356093824.1639"  
        area: "36707649.5325377"  
    amount: 979739  
    length: "5313061937.23702"  
    area: "5627320562.0227605"
```

Web editor

Ajouter une borne manquante

Vous êtes connecté : ce formulaire va éditer directement OpenStreetMap

Nom de la borne

Service payant ?

Oui Non Je ne sais pas

Véhicules autorisés

Auto Moto Vélo

Nombre de places

Nombre de véhicules qui peuvent être chargés en même temps

Nom commercial du réseau

Gestionnaire du réseau

Prises disponibles

Type E Type 2 T2 Combo



Gamification



Badges reçus

Écoles (novembre 2025)



A participé



100+ points

Laboratoires d'analyses médicales (mai 2021)



A participé



6+ points

Défibrillateurs (septembre 2020)



A participé



100+ points

Recharge de véhicules électriques (mars 2020)



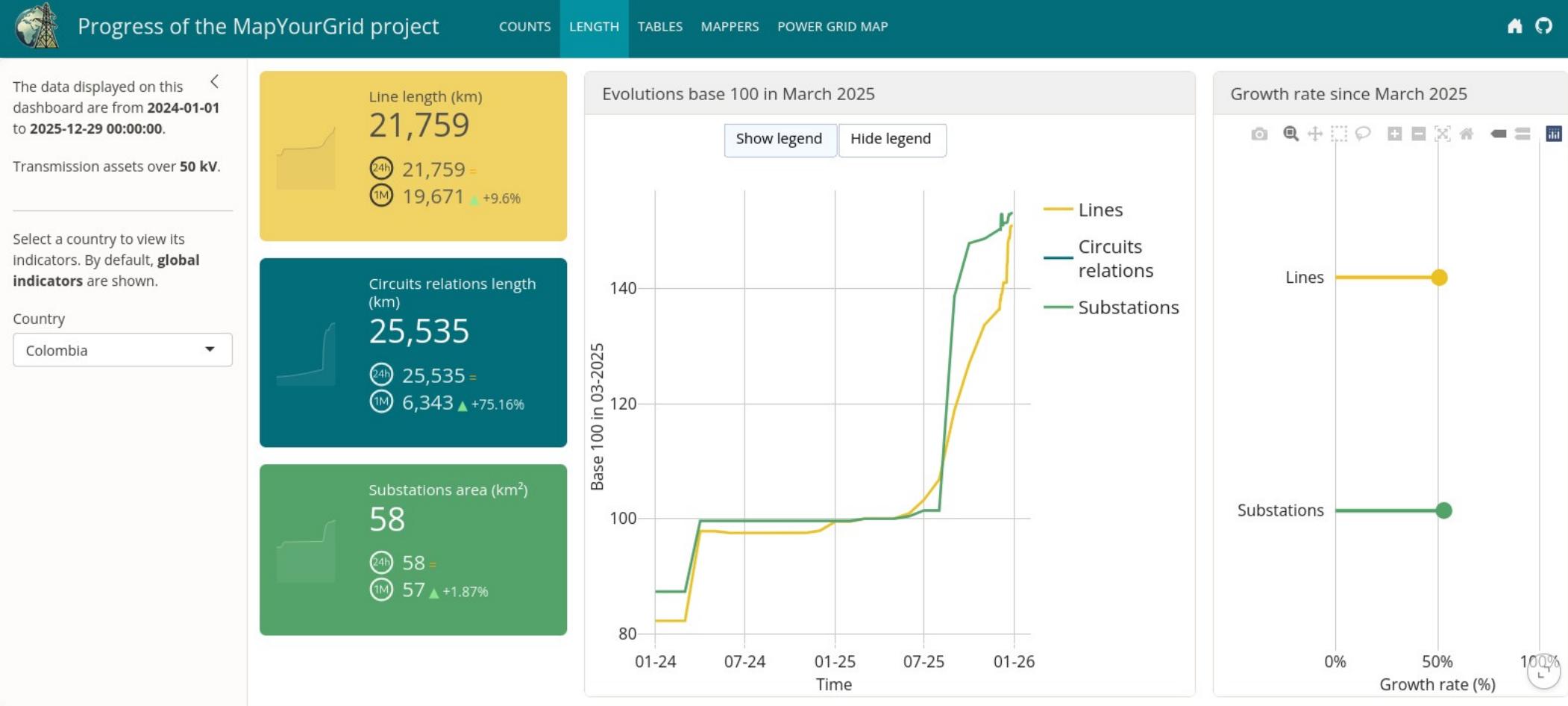
A participé



Près du podium (28%)

API allows custom dashboards

Third party dashboard can consume API and show their own KPI.



Let's try it!

On a easy enough topic to initiate a project in less than 15 minutes.

Can you guess what we are going to count?



Let's try it!

On an easy enough topic to initiate a project in less than 15 minutes.

Public benches in Belgium!



amenity=bench



Podoma setup

OpenStreetMap user for oAuth2



```
{  
  "WEBSITE_NAME": "Podoma Fosdem",  
  "WEBSITE_MOTTO": "The OpenStreetMap Fosdem statistics engine",  
  "WEBSITE_URL": "https://podoma.fr",  
  "WEBSITE_DESCRIPTION": "Podoma is a powerful, full-featured, engine and  
  dashboard for getting precise statistics about OpenStreetMap community  
  contributions over specific topics.",  
  "OSM_URL": "https://www.openstreetmap.org",  
  "OSM_API_URL": "https://api.openstreetmap.org",  
  "OSM_USER": ** secret **,  
  "OSM_PASS": ** secret **,  
  "OSM_CLIENT_ID": ** secret **,  
  "OSMOSÉ_URL": "https://osmose.openstreetmap.fr",  
  "NOMINATIM_URL": "https://nominatim.openstreetmap.org",  
  "MAPILLARY_URL": "https://www.mapillary.com",  
  "MAPILLARY_API_KEY": ** secret **,  
  "PANORAMAX_URL": "https://explore.panoramax.fr",  
  "MATOMO_HOST": null,  
  "MATOMO_SITE": null,  
  "REPOSITORY_URL": "https://github.com/osm-fr/podoma",  
  "JOSM_REMOTE_URL": "http://localhost:8111",  
  "OSH_PBF_AUTHORIZED": true,  
  "OSH_PBF_URL": "https://osm-internal.download.geofabrik.de/europe/belgium-  
  internal.osh.pbf",  
  "OSM_PBF_URL": null,  
  "POLY_URL": "https://download.geofabrik.de/europe/belgium.poly",  
  "VECT_STYLE": "https://tile-vect.openstreetmap.fr/styles/liberty/style.json",  
  "PDM_TILES_URL": "https://fosdem.infos-reseaux.com/tiles",  
  "DB_USE_IMOSM_UPDATE": false,  
  "WORK_DIR": "/data/files/pdm",  
  "GEOJSON_BOUNDS": {  
    "type": "Polygon",  
    "coordinates": [  
      [2.3889137, 51.5516667],[6.408097, 51.5516667],[6.408097, 49.4969821],  
      [2.3889137, 49.4969821],[2.3889137, 51.5516667]  
    ]  
  }  
}
```

OpenStreetMap data files



Belgium Bounding Box



A simple project

An id, a name

Some dates (start, end...)

A filter: nw/amenity=bench

Some aerial imagery and Panoramax layers

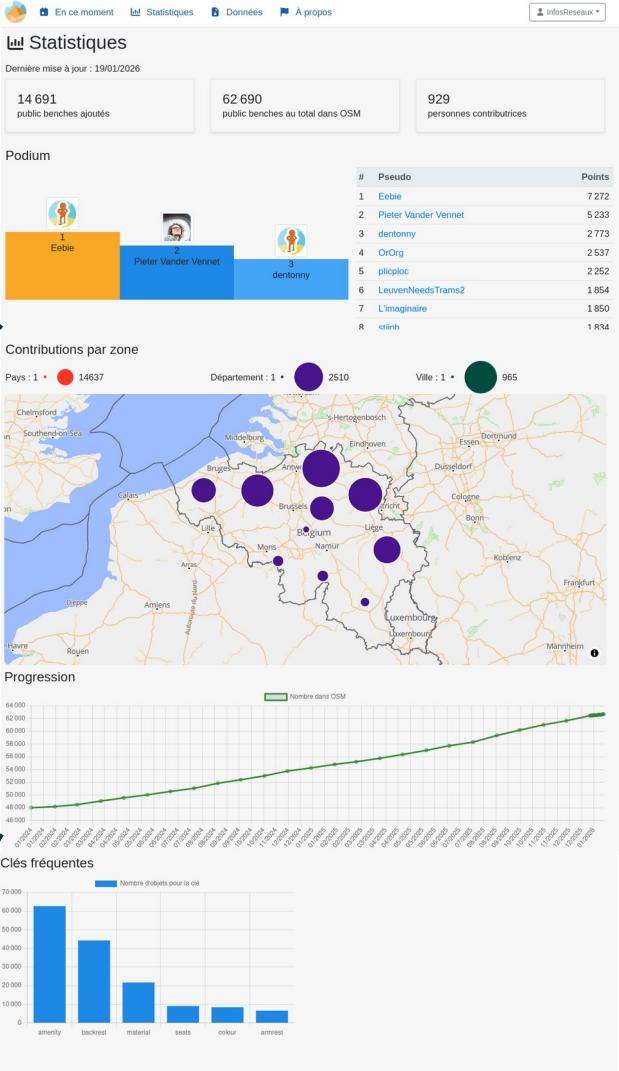
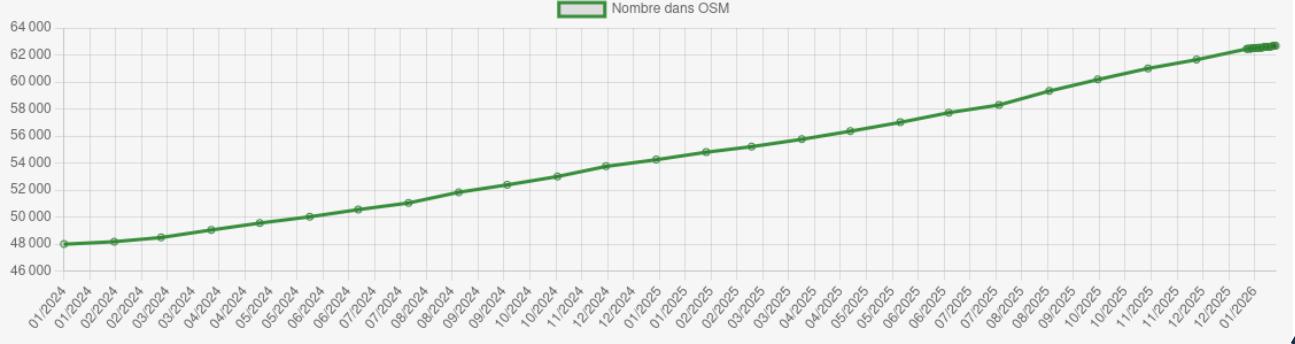
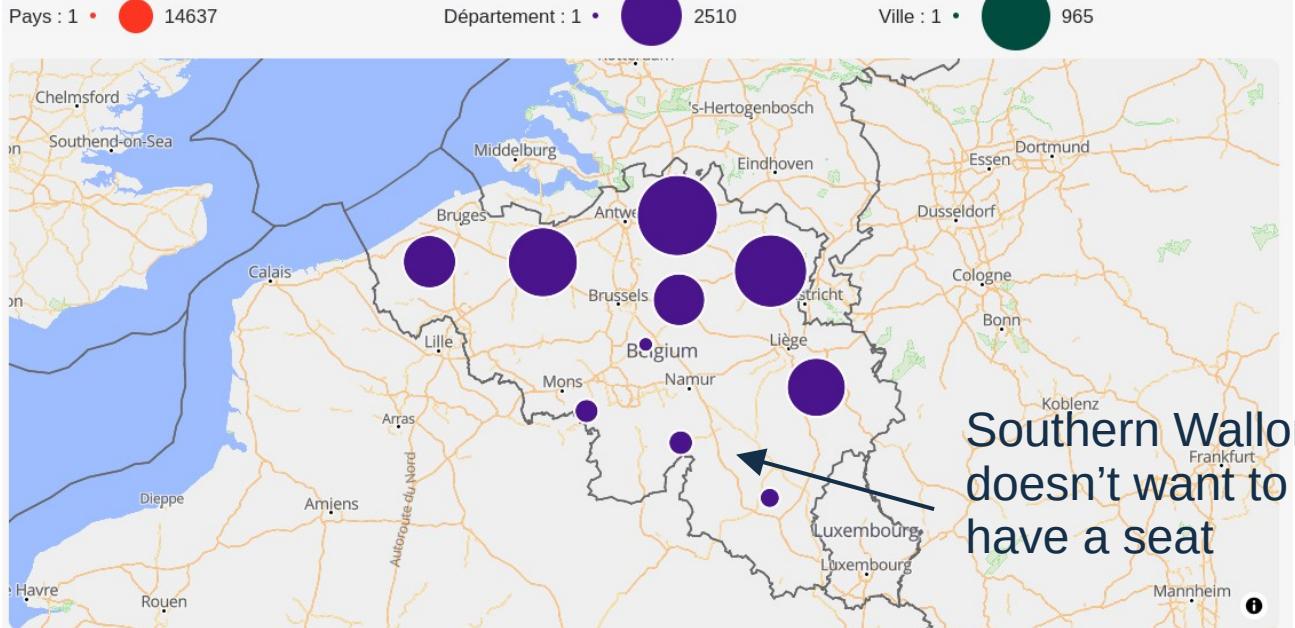
Statistics to be enabled

```
{  
  "id": 1,  
  "name": "2024-01_benches",  
  "title": "Public benches",  
  "start_date": "2024-01-01",  
  "soft_end_date": "2025-06-01",  
  "summary": "Let's map public benches!",  
  "links": {  
    "osmblog": "https://fosdem.org/2026/schedule/event/TJ8TQS-openstreetmap-podoma-monitoring-worldwide/"  
  },  
  "database": {  
    "osmium_tag_filter": "nw/amenity=bench",  
    "labels": {  
    }  
  },  
  "datasources": [  
    {  
      "source": "osm",  
      "name": "Benches in OSM",  
      "description": "This bench already exists in OSM. You can update its attributes."  
    },  
    {  
      "source": "background",  
      "tiles": [ "https://geo.api.vlaanderen.be/OMWRGBMRVL/wms..." ],  
      "name": "Digital Vlaanderen",  
      "icon": "aerial",  
      "attribution": "Digital Vlaanderen"  
    },  
    {  
      "source": "background",  
      "tiles": "panoramax",  
      "name": "Street level pictures (Panoramax)",  
      "icon": "picture"  
    },  
    { "source": "stats" }  
  "statistics": {  
    "count": true,  
    "feature_name": "bench",  
    "points": { "add": 3, "edit": 1, "note": 1 }  
  }  
}
```

Let's put it all in Docker...

As a result

Live demo during fosdem at <https://fosdem.infos-reseaux.com>



Données

Toutes les données produites avant, pendant et après le projet sont disponibles aux adresses suivantes :

• OpenStreetMap benches (via Overpass Turbo)

And the winner is

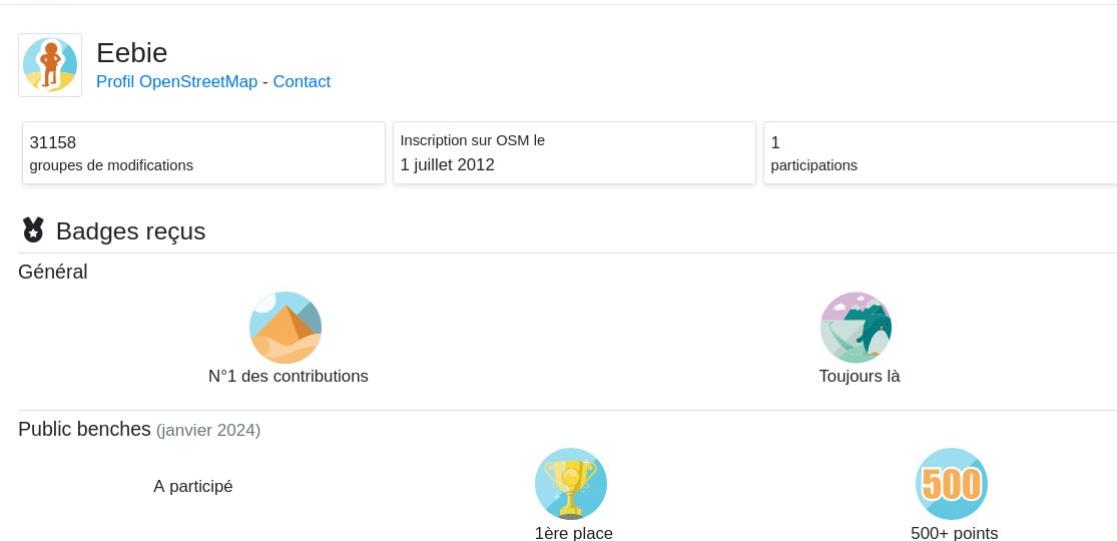
Live demo during fosdem at <https://fosdem.infos-reseaux.com>

Podium



#	Pseudo	Points
1	Eebie	7 054
2	Pieter Vander Vennet	5 233
3	dentonny	2 745
4	OrOrg	2 533
5	plicploc	2 214
6	L'imaginaire	1 829
7	stijnh	1 768
8	StiinRR	1 693

En ce moment Statistiques Données InfosReseaux



Eebie
Profil OpenStreetMap - Contact

31158 groupes de modifications
Inscription sur OSM le 1 juillet 2012
1 participations

Badges reçus

Général

N°1 des contributions Toujours là

Public benches (janvier 2024)

A participé 1ère place 500 500+ points

Podoma paves the way for gamification.

Regarding public benches, 929 users contributed in Belgium, amounting to 65 116 points.

Eebie leads the podium

We need your help



<https://github.com/osm-fr/podoma>

Improve Podoma

Technical debt

Add tests

Optimize

Develop new features

- Custom counts
- Changelog API
- Boundary API
- Better KPI presentation in web interface

Use the changelog

Study and observe

Reuse it in your own software

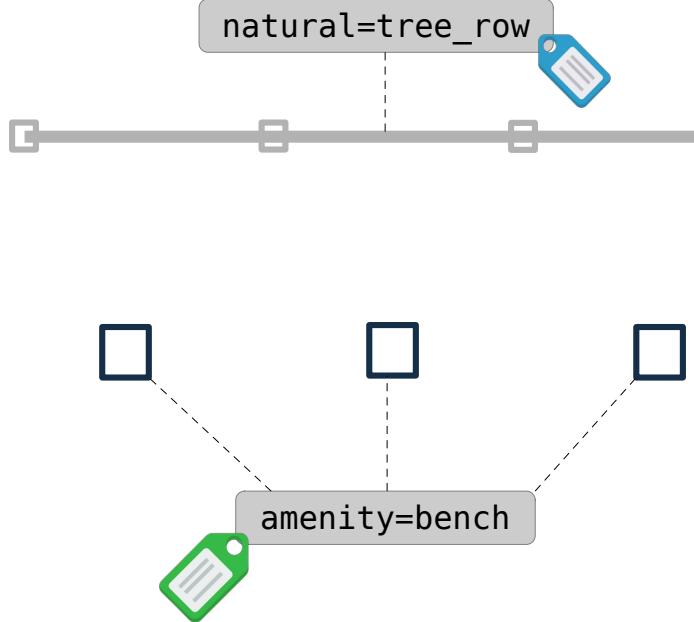
Improve data collection

Create your own project

Counting is all you need

One more thing

It's time to think about enriched diffs (again?)



Initial situation:

- A tree row described with a way and 4 nodes
- 3 benches described on 3 nodes

Podoma only knows the 3 benches



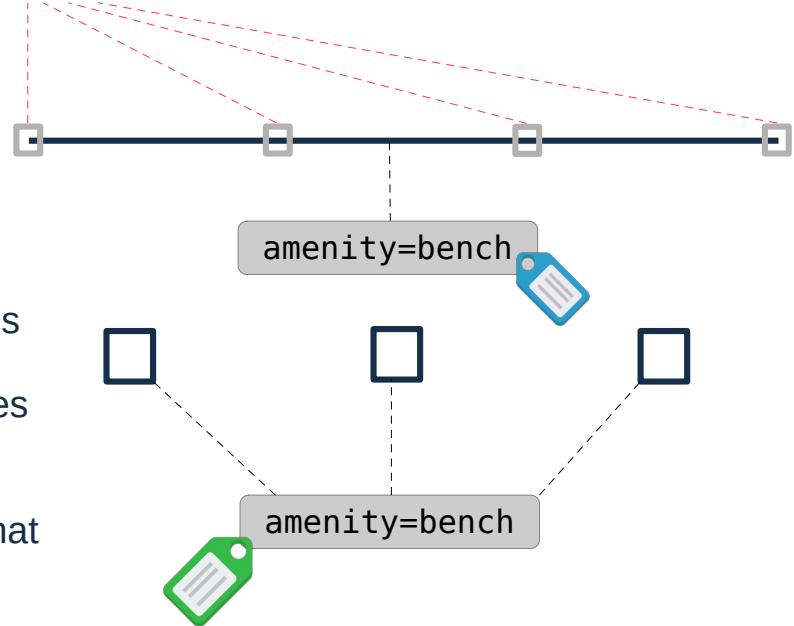
A mapper makes changes

The corresponding changes will only mention the way changing from tree row to bench, without its nodes that remain unchanged.

Local replicates often maintain cache to get missing members as soon as they are mentioned in a diff.

Podoma doesn't have such costly cache and will query Overpass to get missing members current version (this problem only occurs during present catch-up).

Enriched diffs could save from relying on Overpass.



New situation:

- Tree row has been changed into a bench
- 3 benches still exists on 3 nodes

Podoma now knows 4 benches but the way has got no nodes

Thank you

Any question ?



<https://www.openstreetmap.fr>

See Podoma in action at
<https://www.projetdumois.fr>

Find source at
<https://github.com/osm-fr/podoma>

