

OsmInEdit - A Simple Indoor Editor

<https://osminedit.pavie.info>

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Heidelberg, September 21st 2019

STATE OF
THE MAP

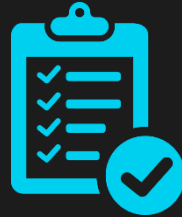


Bridging the Map
Heidelberg 2019

Heidelberg 2019
Bridging the Map

Outline

OsmInEdit - A Simple Indoor Editor



• Vision

- Mission statement
- Open Data
- Applications for indoor maps

• Status Quo

- Coverage of OSM indoor maps
- Simple Indoor Tagging schema
- OSM mapping tools

- OsminEdit - Key Features

- Floor plan import
- Indoor editing hierarchy
- Indoor feature presets
- Web-based editing

- Outlook

- Challenges to indoor mapping
- Next steps
- How can you contribute?

Indoor maps are applied in various fields



Indoor Navigation

Turn-by-turn guidance, map display, shortest route, search POIs, AR-navigation



Simulations

Emergency planning, optimize people flow, video games

ADS

Location based ads

Provide ads close to shops



Maintenance

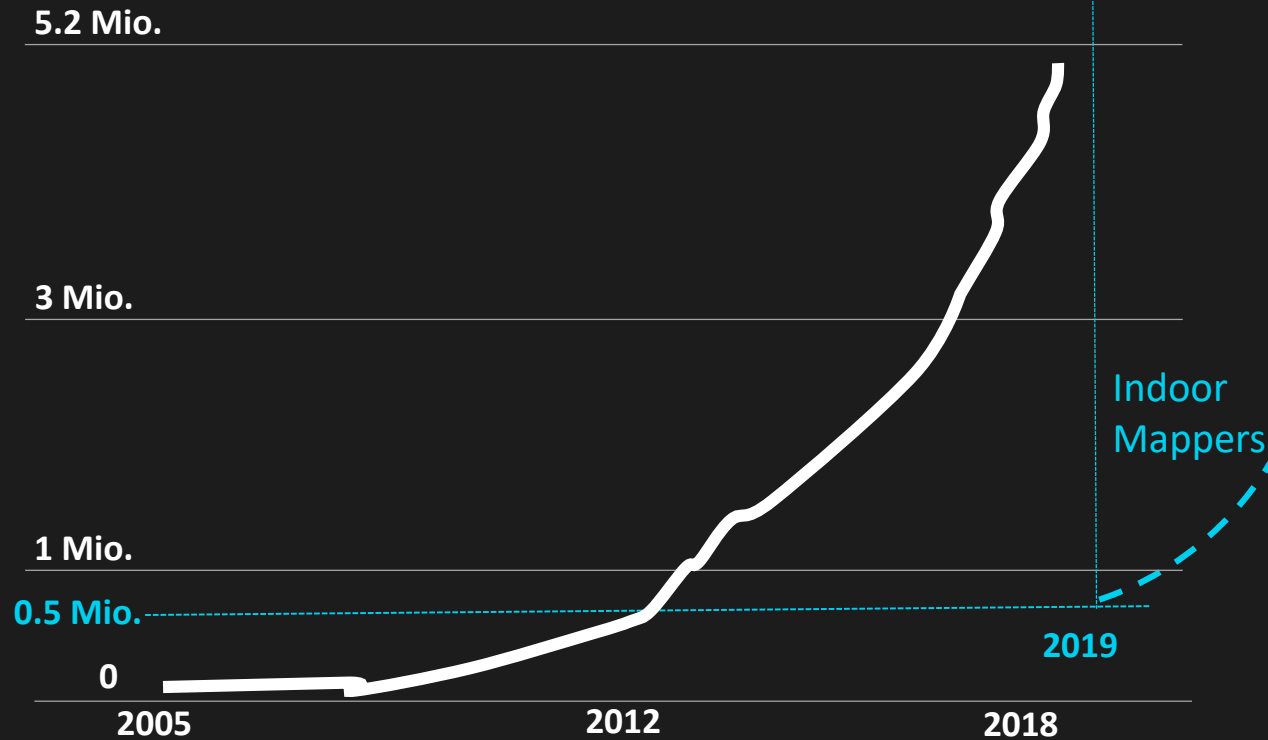
Equipment map, Building Information Model (BIM)

Vision – Mission Statement

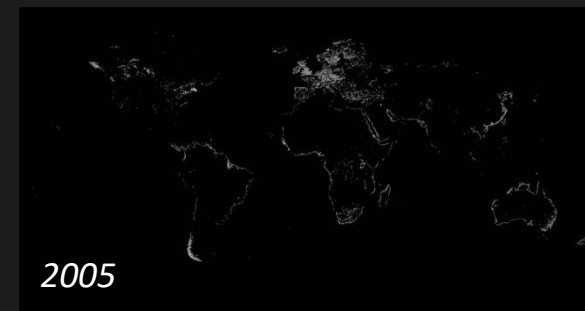
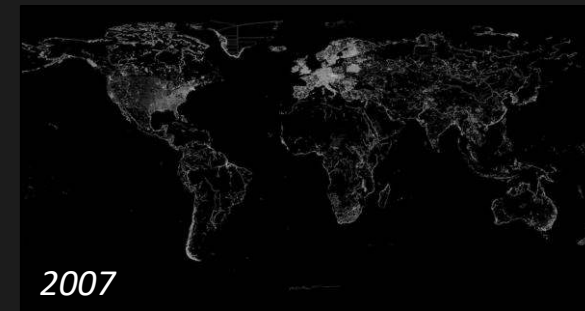
We aim to repeat the OpenStreetMap success story for the indoor space
With the right tools and your help we believe that we can achieve this goal

OSM Registered Users

Assumption: Every 10th user today will engage in indoor mapping



Source: <https://wiki.openstreetmap.org/wiki/Stats>



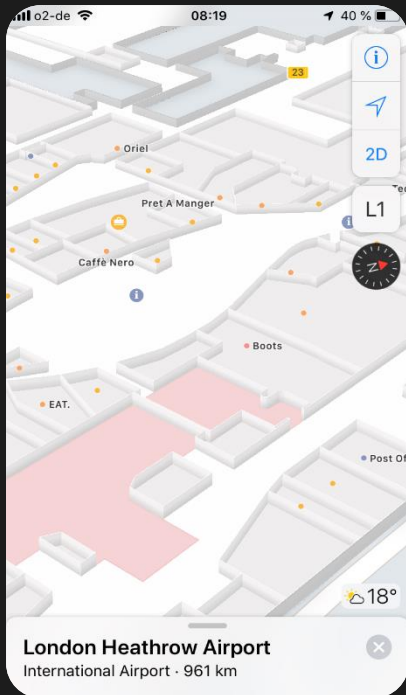
Source: <https://www.youtube.com/watch?v=90uKV29nGBs>

Vision – Open Data

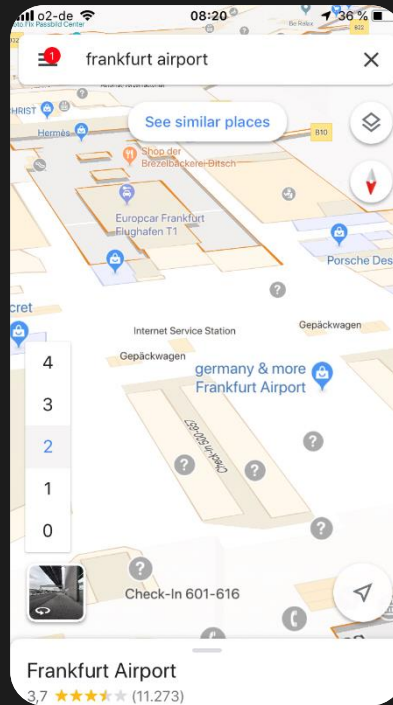
Google & Apple already use indoor maps – we can do the same but open and accessible for everyone



Apple Maps



Google Maps



OpenStreetMap



Gare de l'Est, Paris

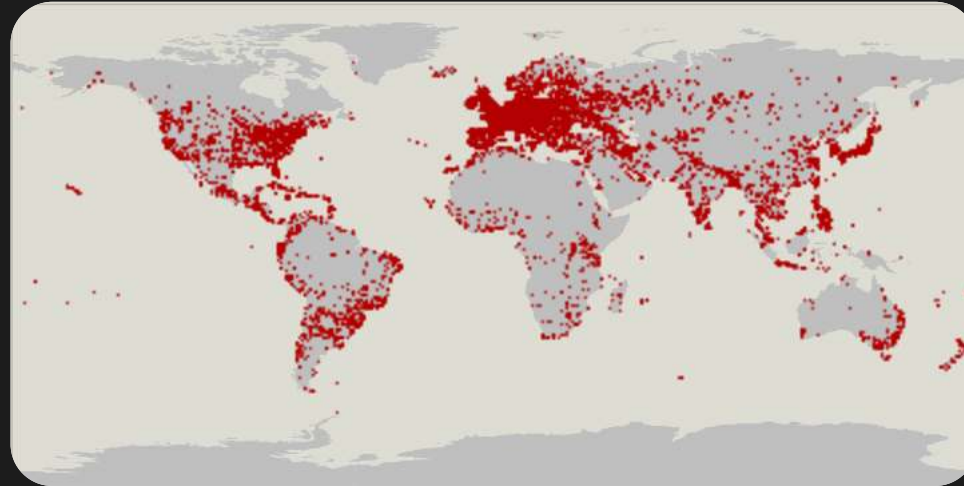
Status Quo – Indoor Maps Coverage

Today, the majority of indoor maps are not contributed by a mapping community but by single initiatives as the one from SNCF in 2016

Indoor Maps 388 train stations



Use of level tag worldwide



With the right tools we believe to enable a broad community to map indoors

Status Quo – Simple Indoor Tagging

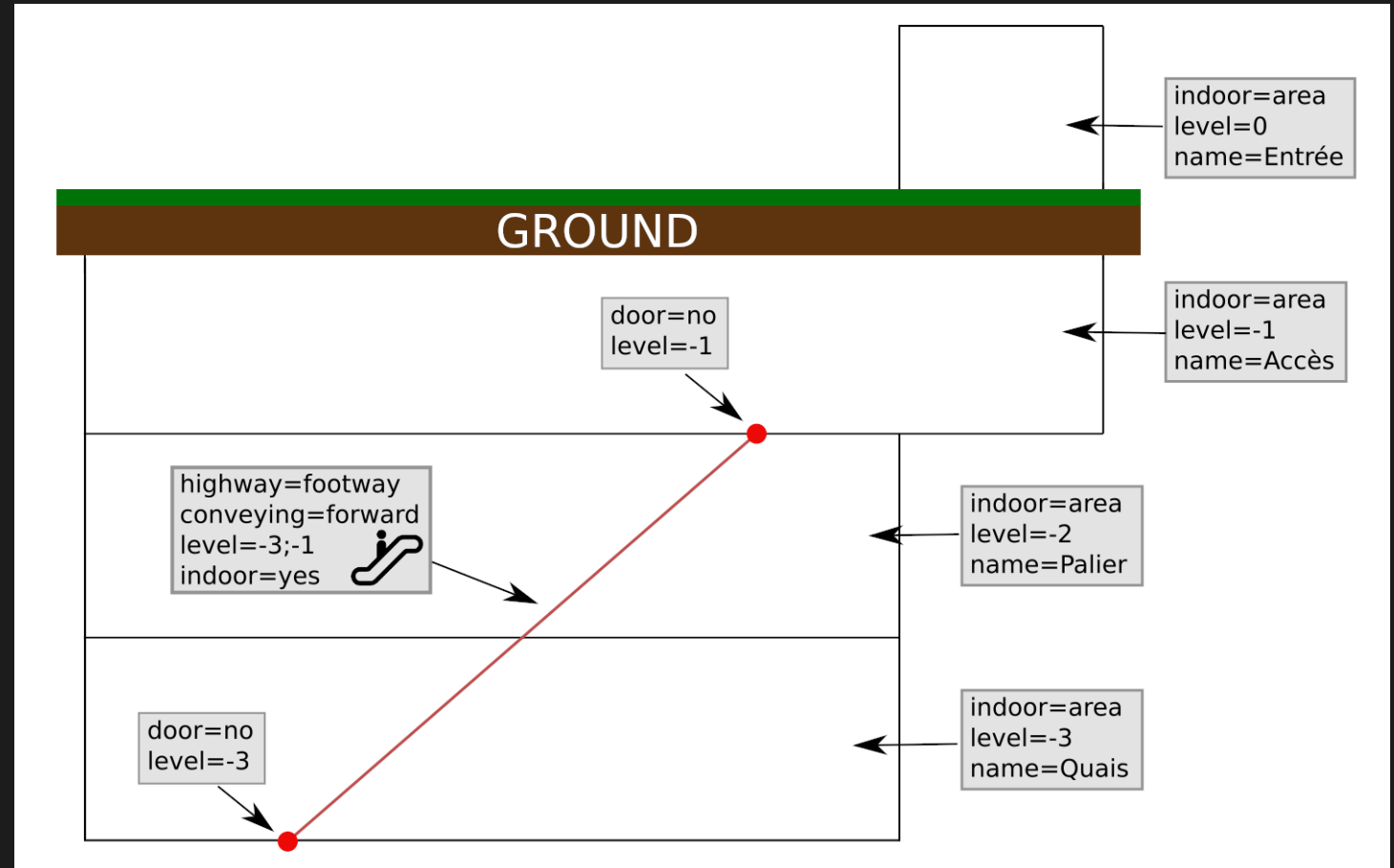
Simple Indoor Tagging emerged as a community consensus on how to model indoor data

Which floor a feature belongs to :
level=0/1/2/...

Indoor structure
indoor=room/area/wall/...

No need for relations nor complex tags

Example : bakery on level 1
indoor=room + shop=bakery
level=1 + name="B is for Bakery"



Popular editors such as ID or JOSM lack important features to properly map buildings indoors

JOSM



- Basic floor plan management (plugin)
- Limited level filtering
- Simple Indoor Tagging (plugin)
- Not user-friendly enough for non-expert mappers because overloaded with optionality and features
- No easy access because not web-based
- No indoor specific validation rules

ID



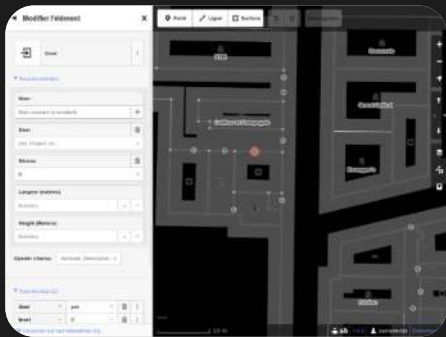
- No floor plan import function.
- No function to filter data by level.
- No Simple Indoor Tagging presets
- No indoor specific validation rules

The attempt to establish a tool for indoor mapping was unsuccessful so far.



Editors

ID Indoor (Adrien Pavie)



Fork of iD :

- hard to follow regular updates
- Basic level filtering and presets
- No floor plan import
- → Not really convenient



Viewer

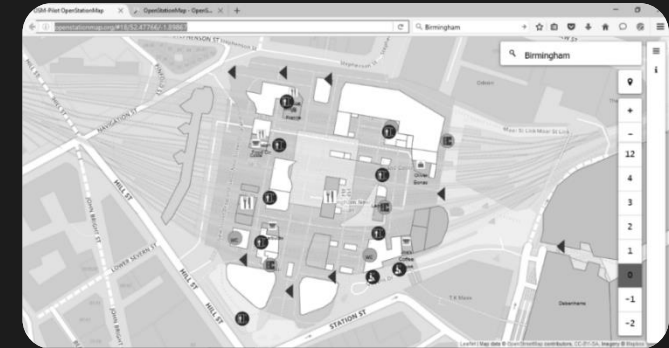
OpenLevelUP (Adrien Pavie)



- Live data everywhere
- Long loading time
- Not a great user experience

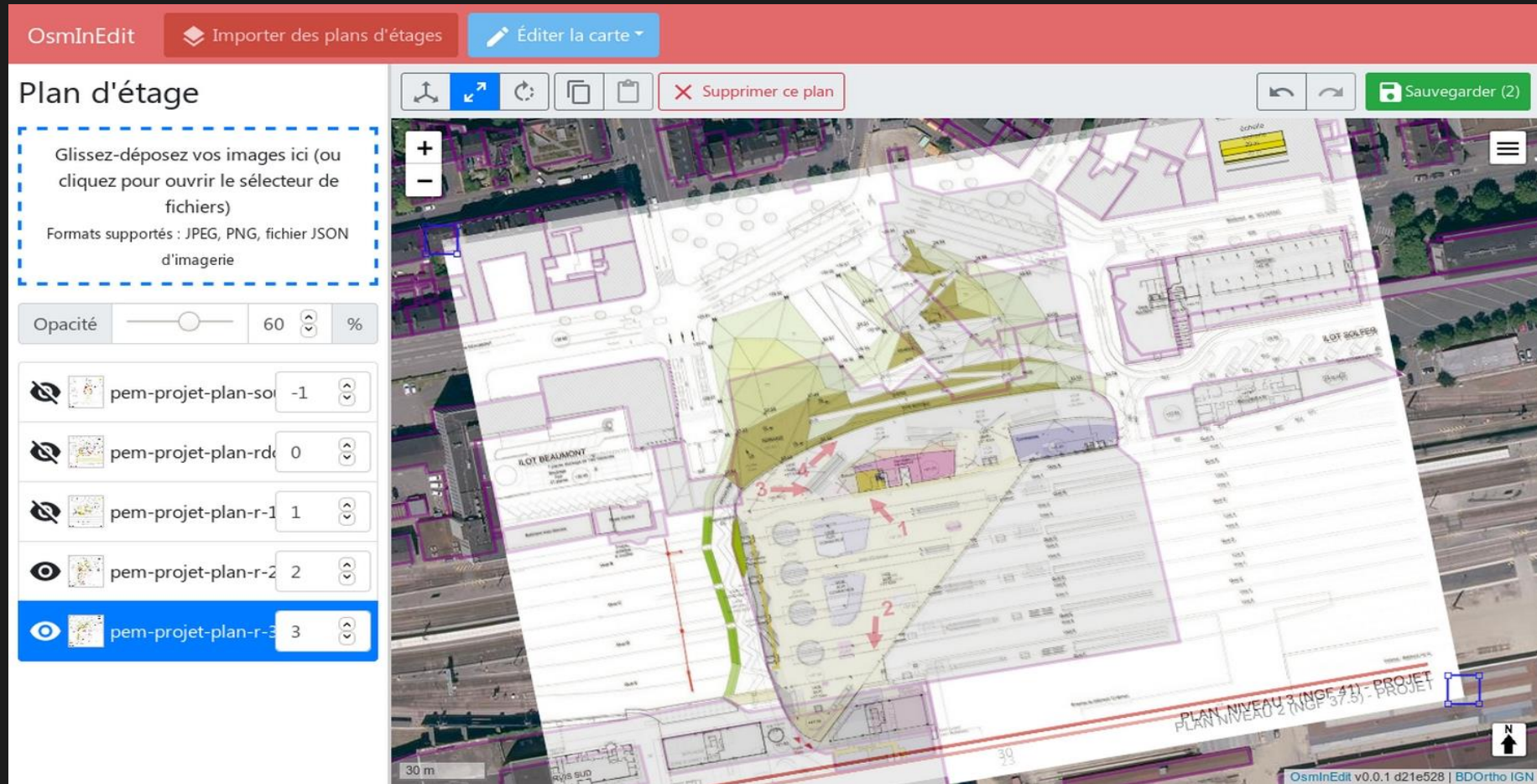
OpenStationMap

(Roland Wagner, Roland Olbricht)

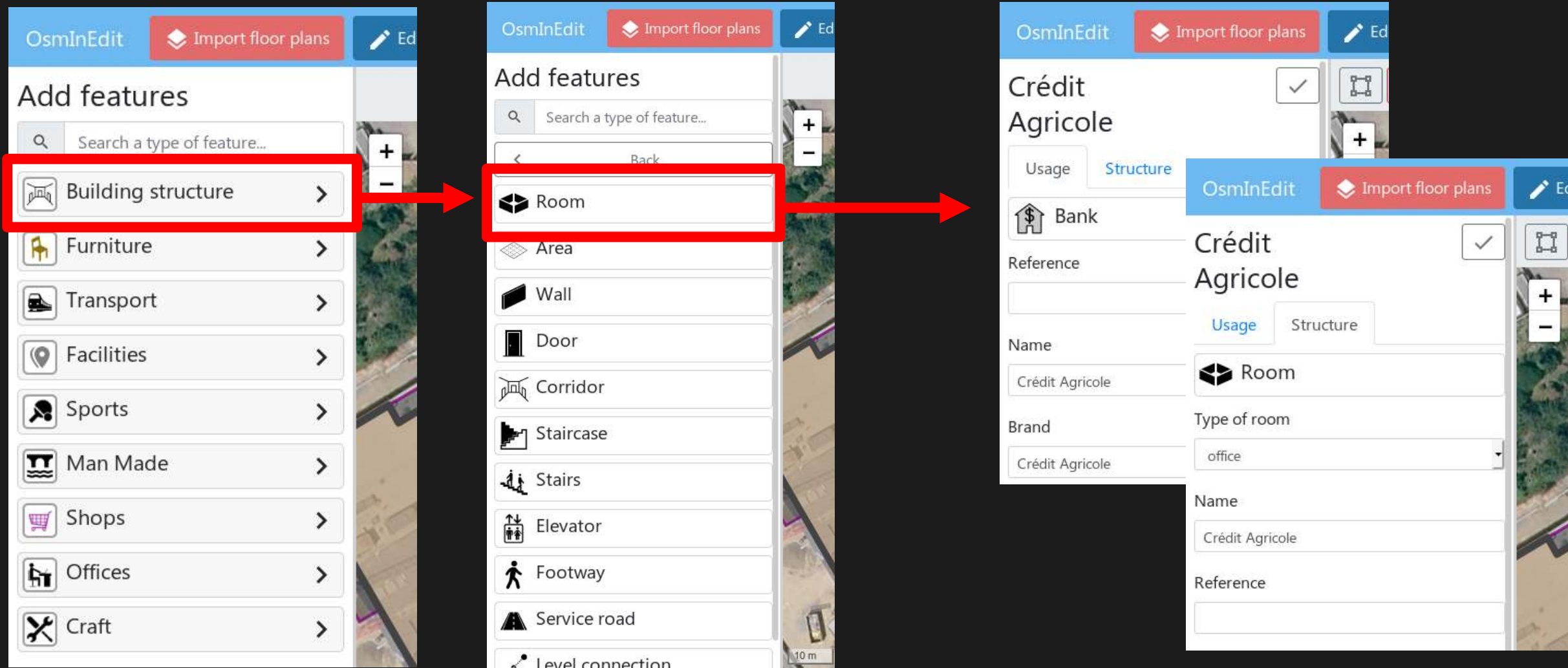


- Using vector tiles : fast
- Limited functionality
- Focused on railway stations

Floor plan import



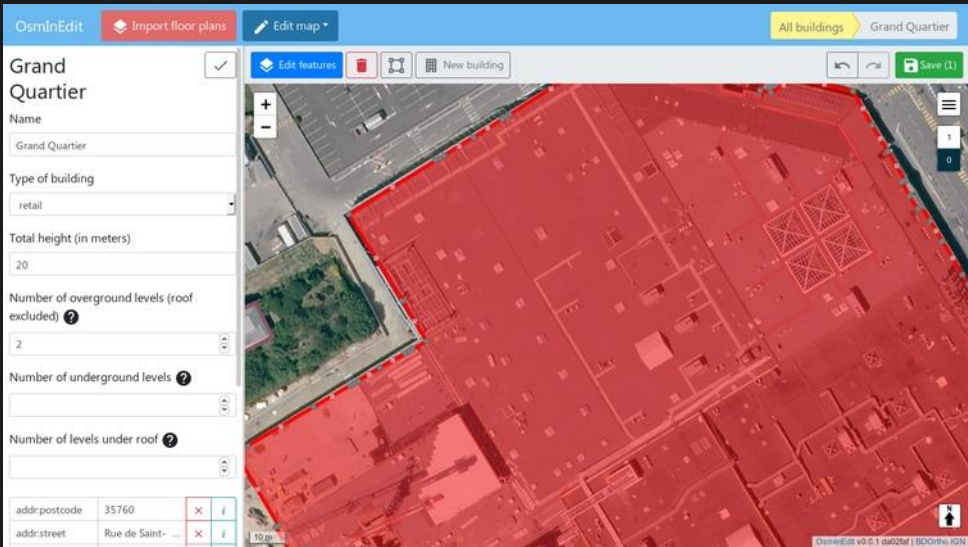
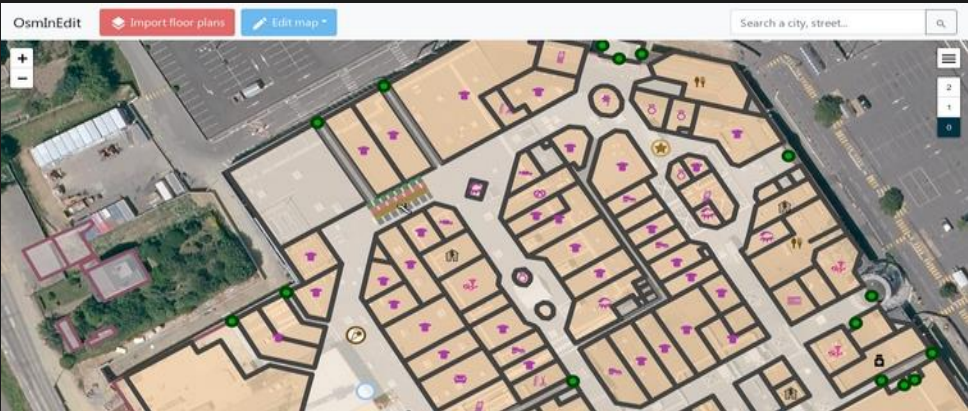
Indoor specific feature presets



Top-Down editing hierarchy dedicated to indoor mapping

Mode	Level of Resolution	What can you Edit?
1. Street Mode	Street View	<ul style="list-style-type: none">Nothing, only overviewOnly panning and zooming
2. Editing Mode	Single Building	<ul style="list-style-type: none">Building OutlineBuilding Metadata (name, number of levels, height...)

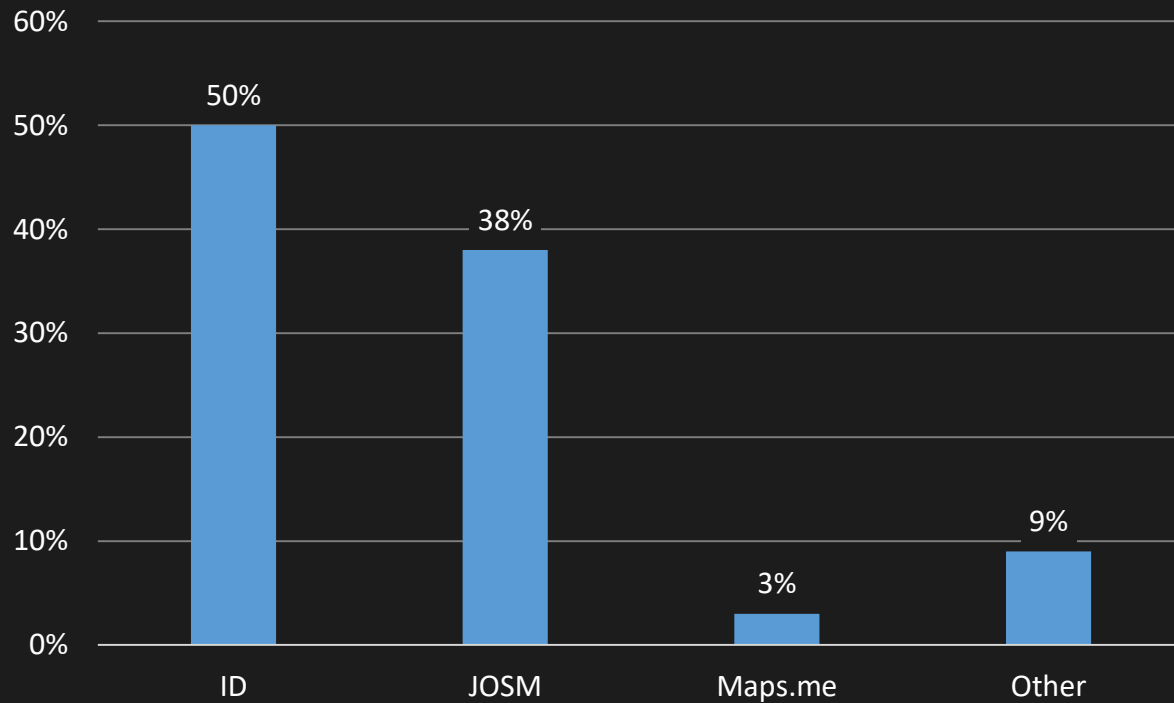
Single Level	<ul style="list-style-type: none">Level OutlineFeatures (Geometry, POIs...)
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OsmlnEdit – Key features

Our editor is simple and web-based similar to ID, to make mapping accessible for a broad user group

Changesets in 2018



Source : https://wiki.openstreetmap.org/wiki/Editor_usage_stats

Challenges specific to indoor mapping



Legal

- Most buildings are private property:
 - Restricted access
 - No public access to floor plans in most cases
 - Floor plans may require permission from building owner/architect. Otherwise usage infringe copyright certain countries



Technical

- No accurate GPS signal available
- Mapping 3D building in a 2D editor

Next Steps



Community

- Improve or extend Simple Indoor Tagging schema
- Offer more documentation
- Make indoor data sources easier to access



New features

- 3D preview of your edits
- Show indoor, geo-located images
- Tools for semi-automated mapping

How can you contribute?



As Mapper

- Map as many buildings as you can!
- Talk about indoor mapping to your local community
- Report bugs or feature ideas
- Continue promoting indoor mapping
- Help local groups launch mapathons & discuss with building operators
- <https://wiki.openstreetmap.org/wiki/OsmlnEdit>



As Developer

- **ISC License**
- Contribute new features and fix bugs
- Framagit (main):
<https://framagit.org/PanierAvide/osminedit>
- Github (mirror):
<https://github.com/PanierAvide/OsmlnEdit>



As Translator

- Get the Editor translated into other languages (today only English & French)

Check out OsmInedit here...

<https://osminedit.pavie.info>

Contact us

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