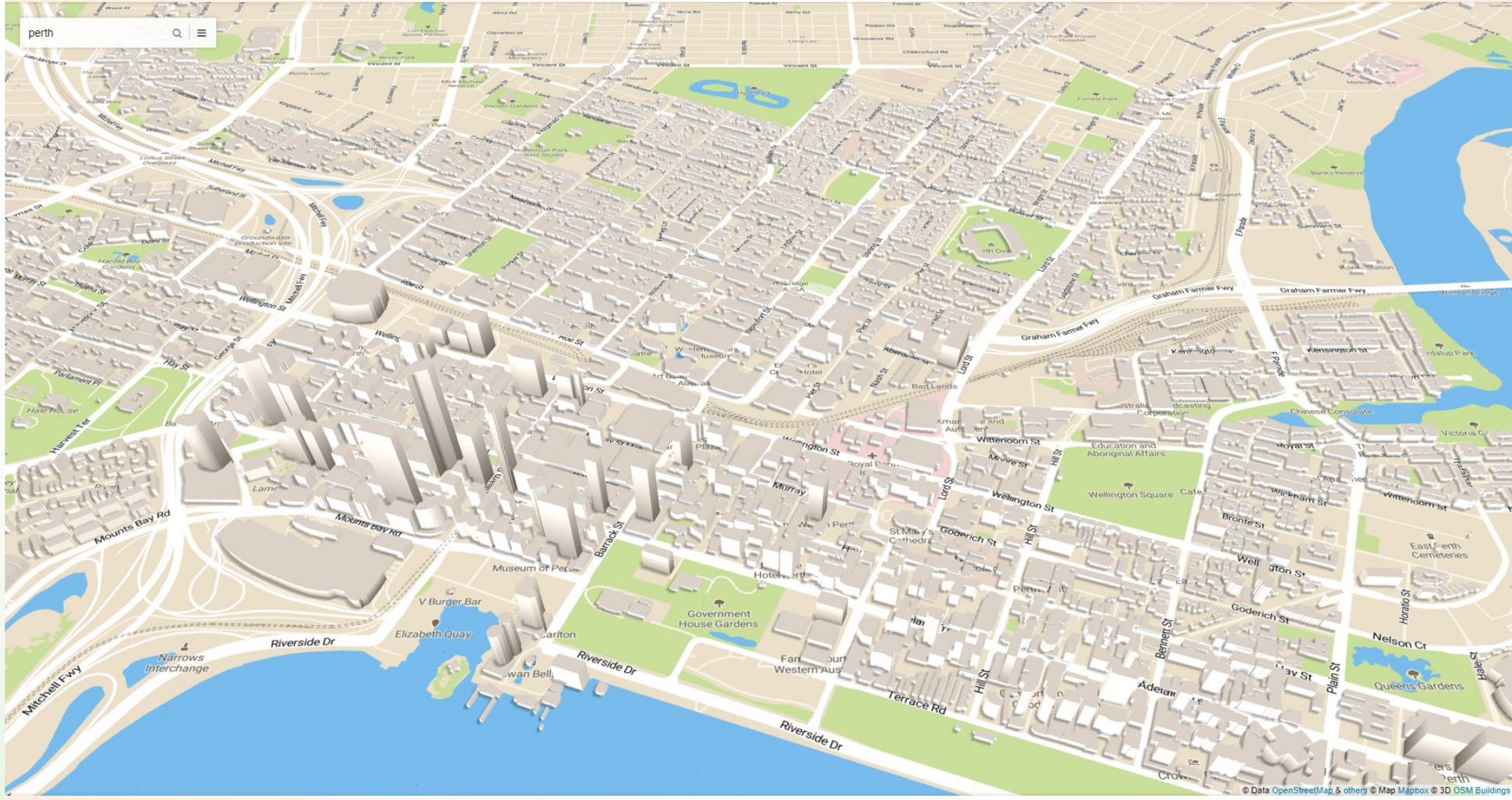


Let's map indoors: starting indoor mapping with OSM

Nimalika Fernando
Curtin University





© Data OpenStreetMap & others © Map Mapbox © 3D OSM Buildings

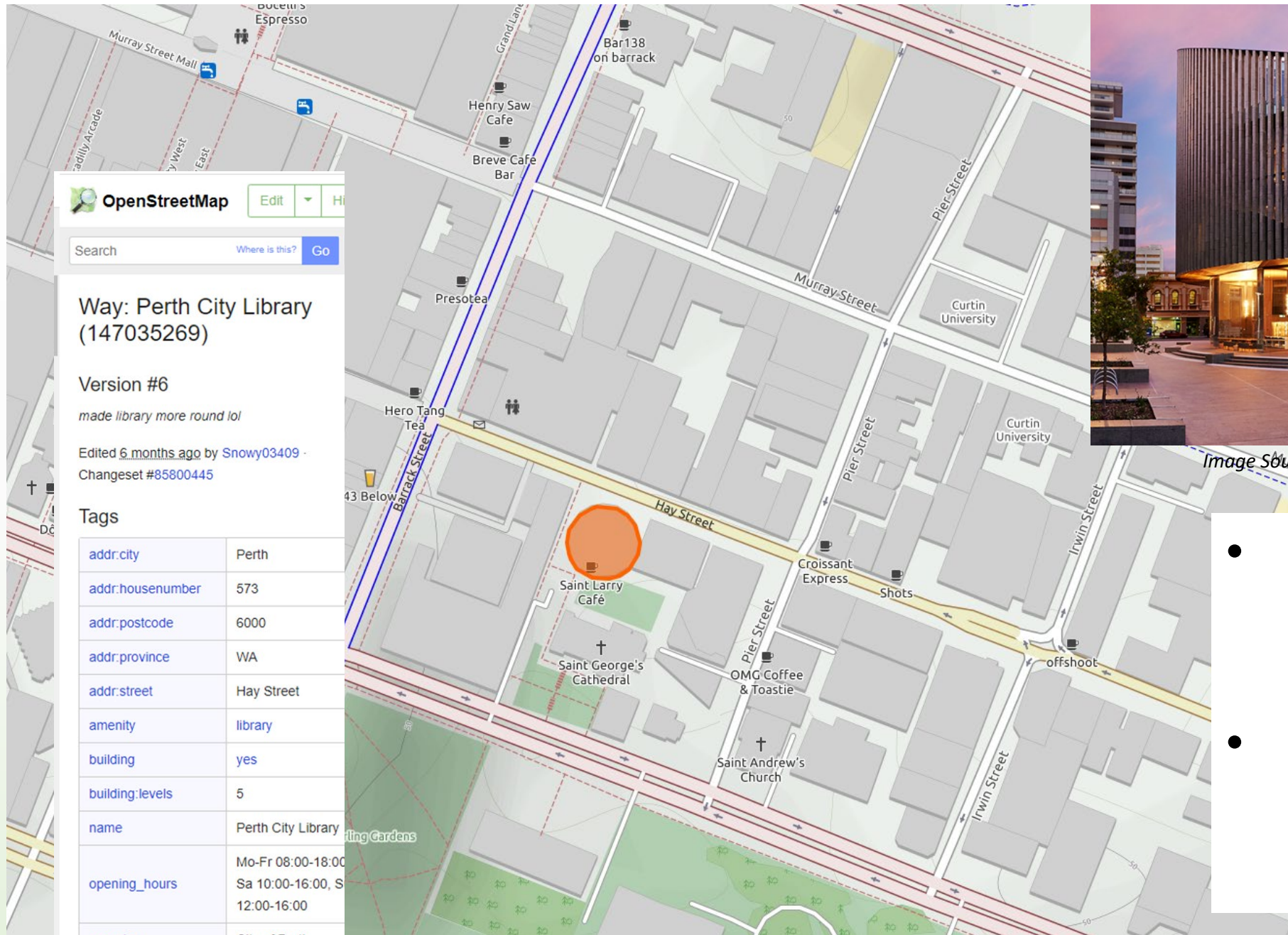





Image Source: <https://www.visitperth.com/blog/digital-library>

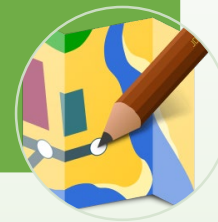
- Useful to know indoor details of public spaces
- Indoor routing in complex buildings

How to start ?

- Building features are different
- Buildings may have many floors
- No satellite images- may need a floor plan to start with

- Indoor help 
- Piclayer 
- BuildingsTool 

JOSM
plugins



- OSMinEdit (2019)

OsminEdit

ID style

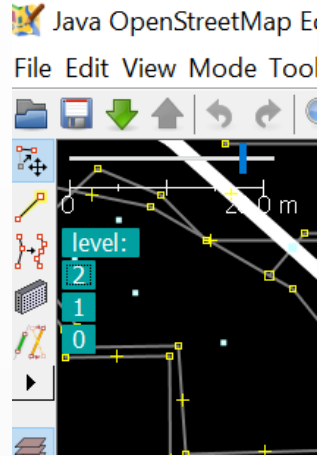


Indoor editing tools

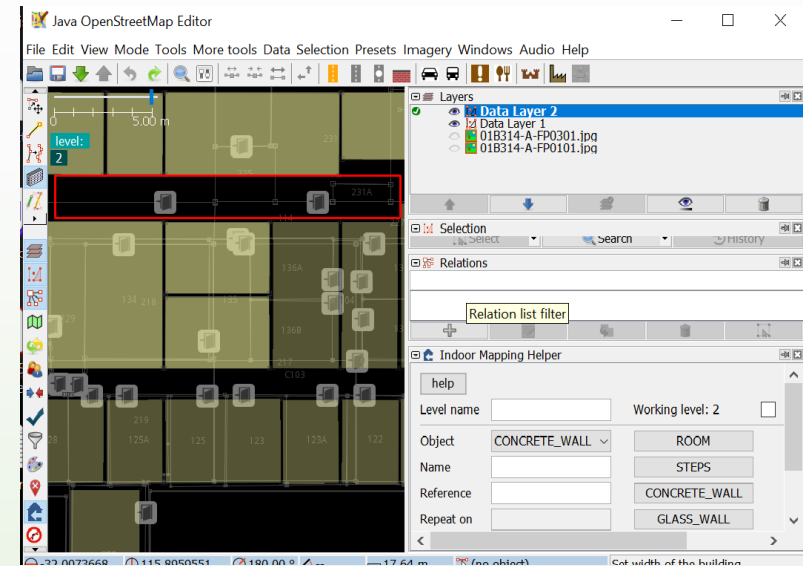


JOSM workflow

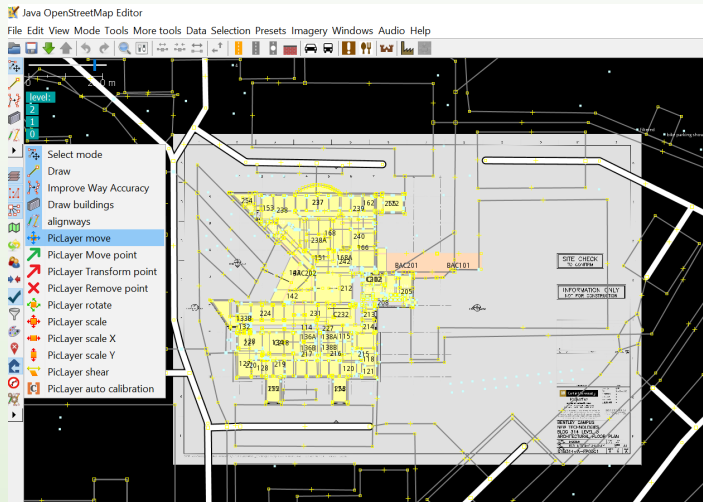
1. Download JOSM and set up
2. Enable **picLayer**, **indoorHelper**, **BuildingsTool**(optional) plugins
Preferences->plugins ->
3. Download OSM data of the required building area;
zoom to the building
4. Load the floor plan
imagery-> new picture layer from file



6. If editing already available level, **select the correct layer to edit** or add a new data layer if editing a new level



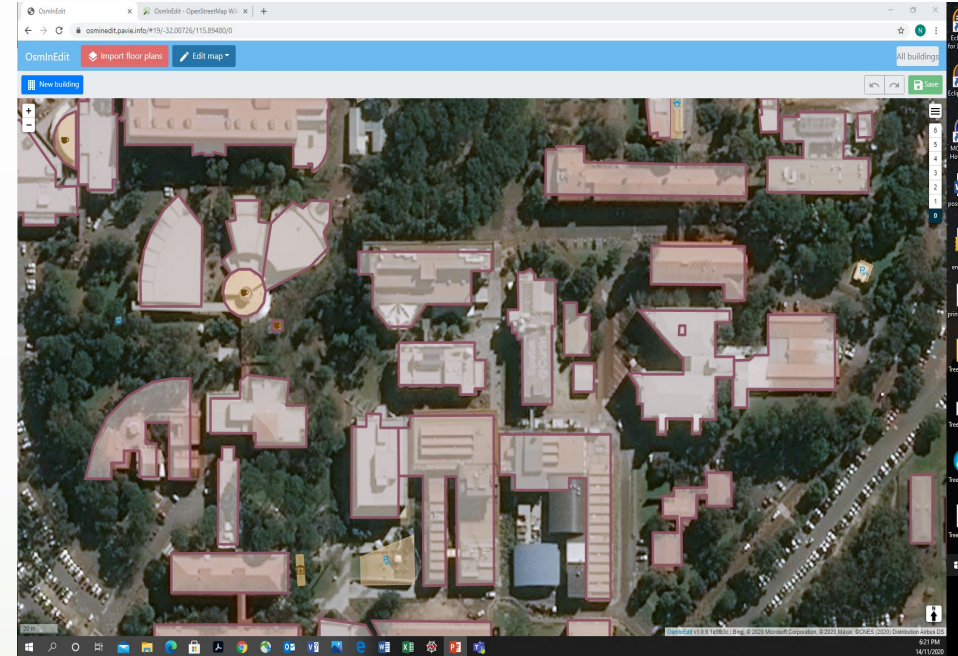
5. use **picLayer** tools to calibrate the floor plan



7. start editing

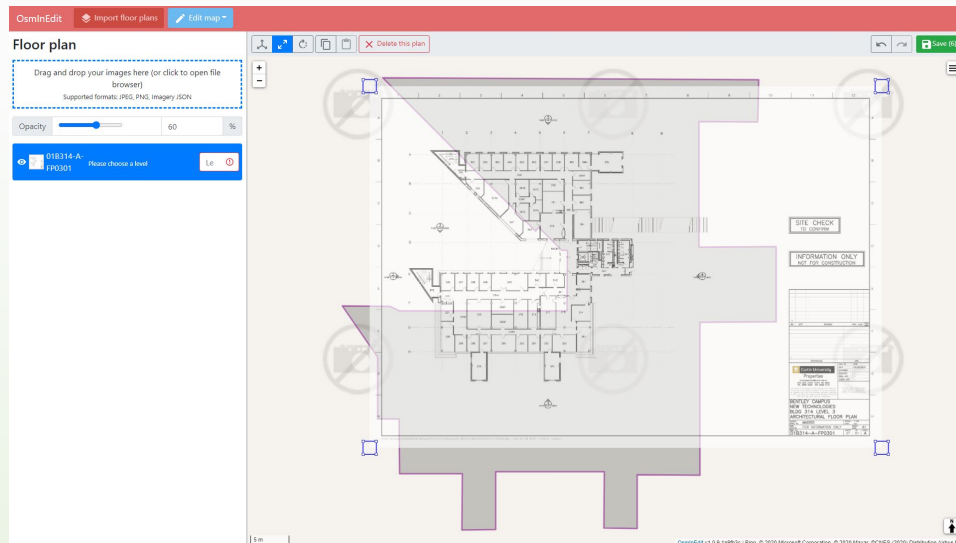
OsmInEdit Workflow

1. Open : <https://osminedit.pavie.info/>
2. Search the building / the area
3. Select the building you want to map inside; If it's already mapped, level selector will be shown; If the building is not there, create the building boundary

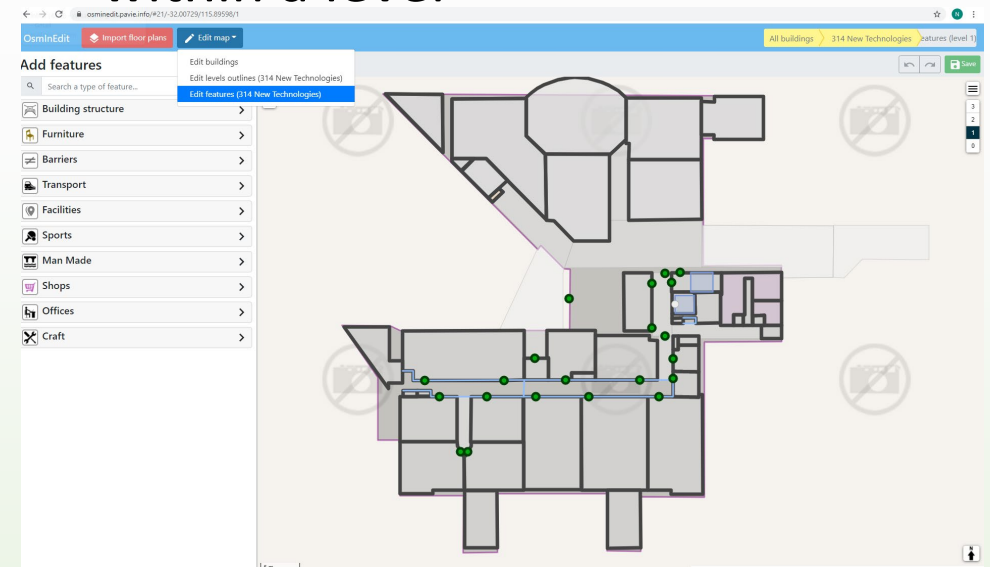


OsmInEdit Workflow

4. If using a floor plan: Use import floor plans option ; Do simple adjustments to place the plan properly

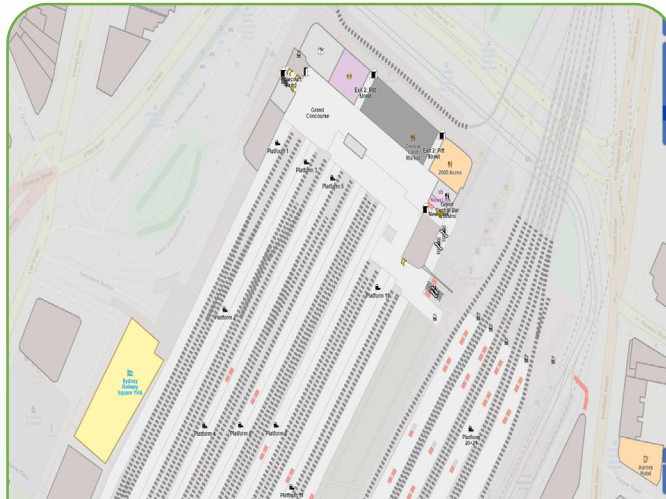


5. Set the *level* to the required floor
6. Select whether editing building boundary, level outlines or features within a level

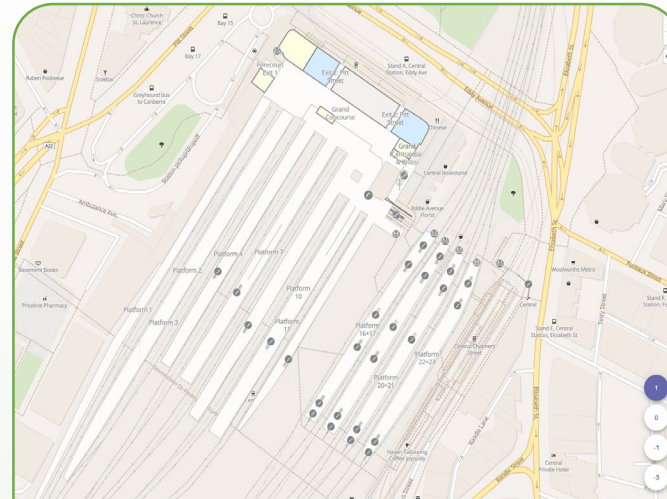
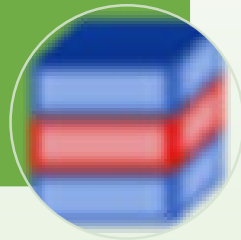


7. Start mapping !!

Viewing indoor data



OpenLevelUp



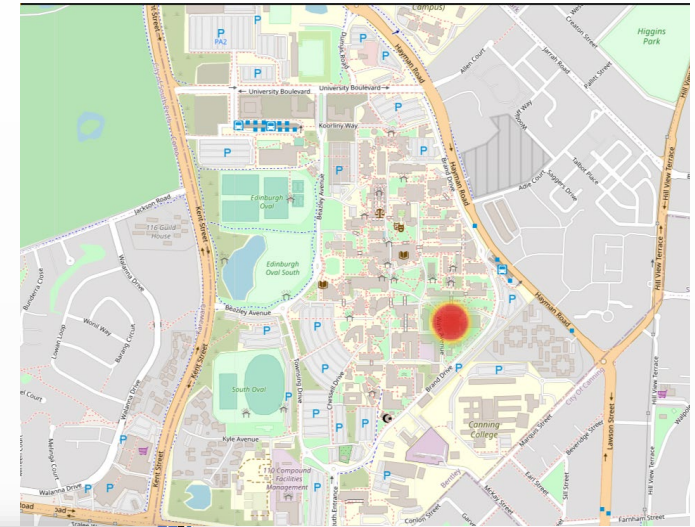
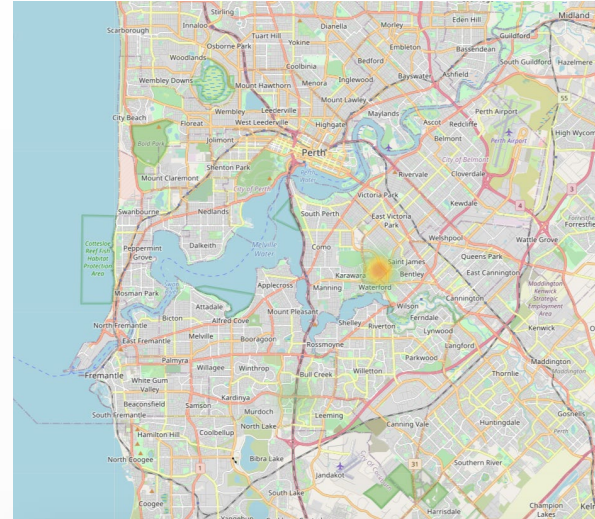
Indoor=



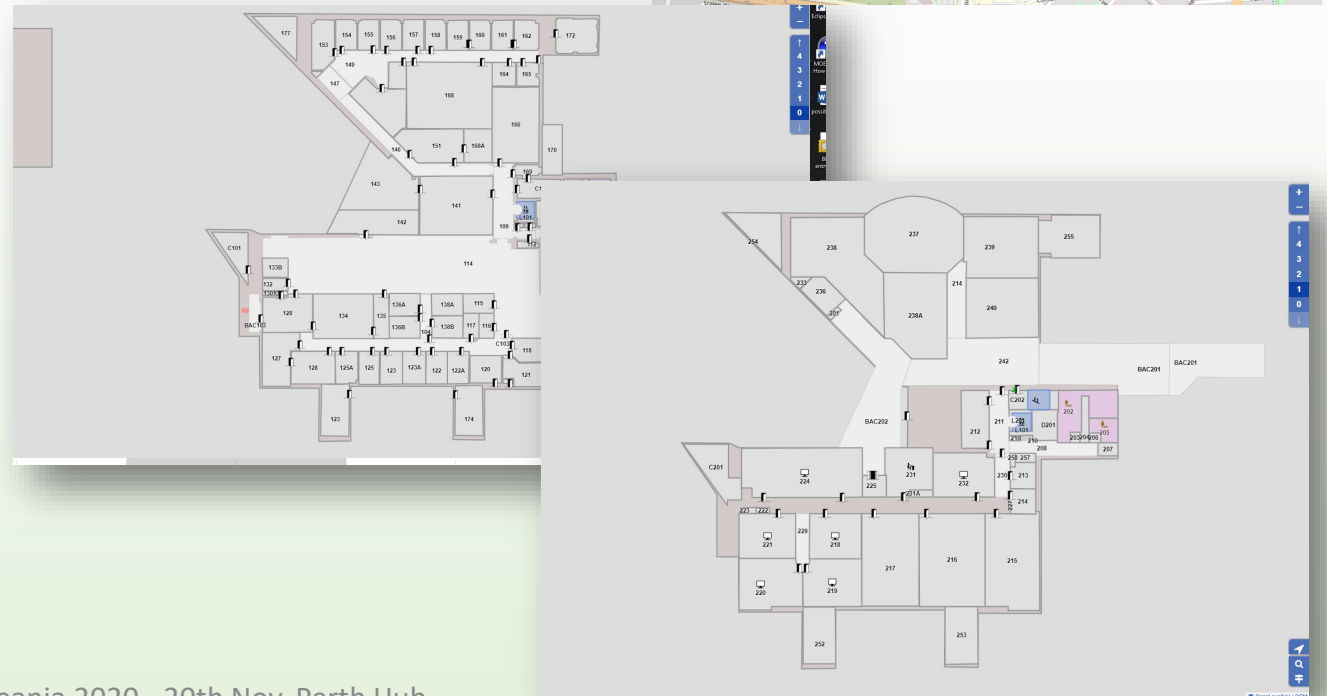
OpenIndoor



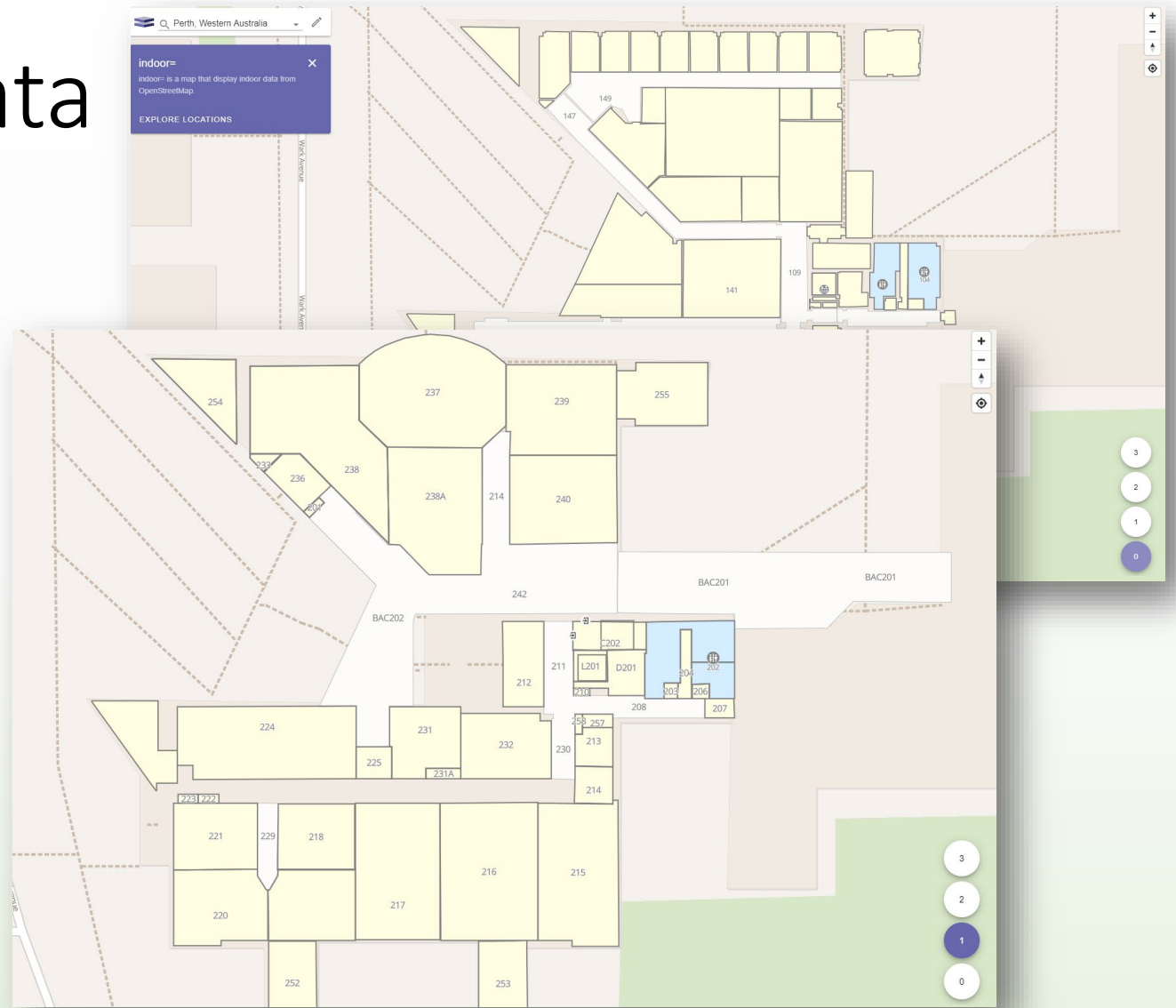
Viewing indoor data



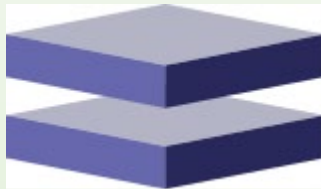
<https://openlevelup.net/>



Viewing indoor data



<https://indoorequal.org/>

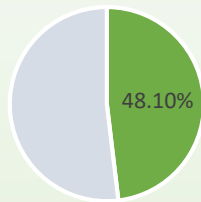


Present coverage of indoor data

Tag *indoor* =* use

Type	Number of objects	%	Number of values
All	269 833	0.00%	186
Node	68 221	0.04%	87
Way	195 214	0.03%	120
Relation	6 398	0.08%	14

% ways with building =yes



■ building=yes

From taginfo , 14th Nov 2020



KEYS · TAGS · RELATIONS · PROJECTS · REPORTS · ABOUT

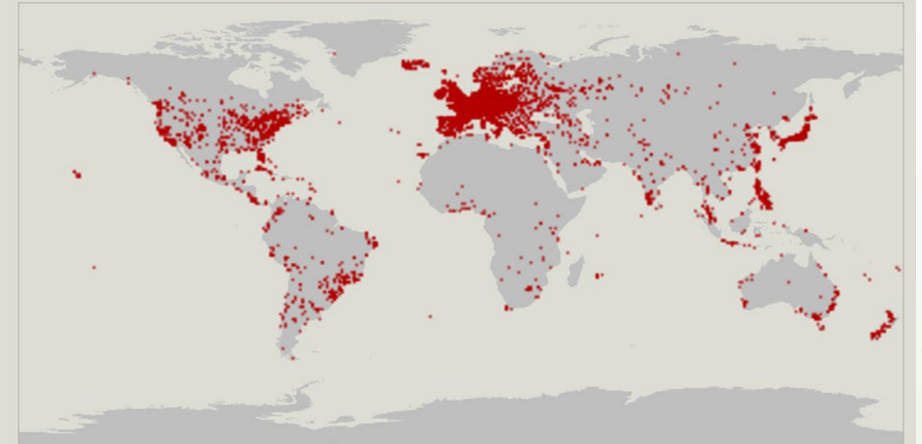
indoor

Key used with the Simple Indoor Tagging scheme.

Overview Values Combinations Similar Chronology **Map** Wiki Projects

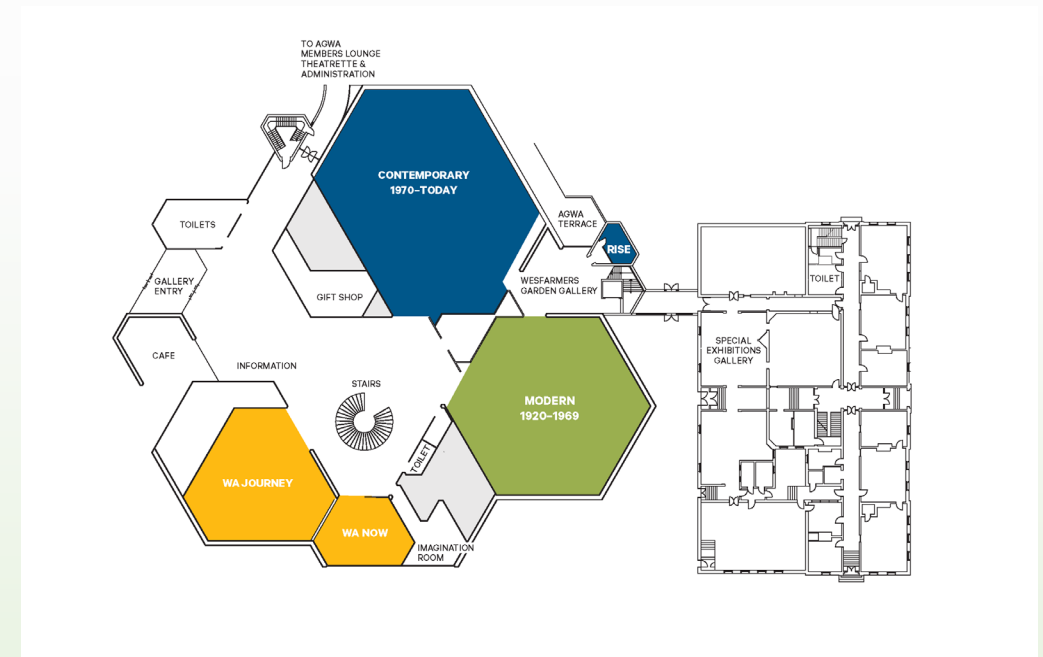
Geographical distribution of this key

This shows the distribution of nodes and ways with this key, relations are not shown.



Mapping tips – starting

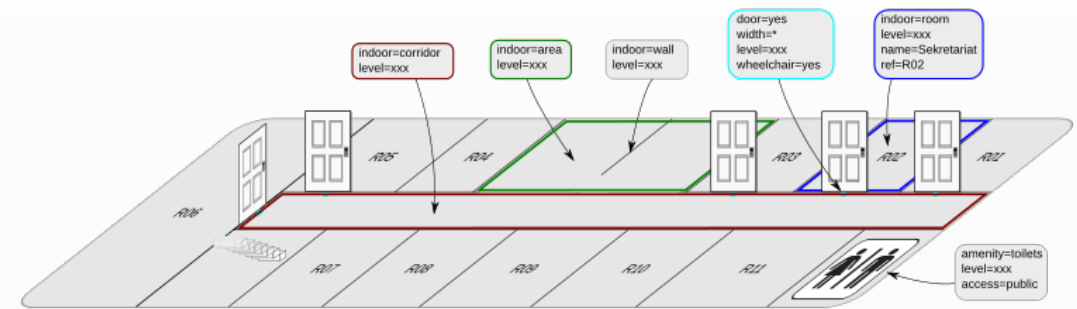
- Map public buildings
- First map the building boundary ; adjust each level's boundary if not the same as the ground floor outline
- Use floor plans if available
- Map in the order of
 - Rooms
 - Corridors,
 - Doors, Stairways, elevators , POIs
 - Walls (if required)
 - Routes ([highway=footway/steps](#))



Mapping tips –tagging

- Follow the [Simple indoor tagging](#) guidelines
- Add *layer* and *indoor* tags at least
- Tag the features with *level* tag
 - *level=**
- Tag the features with *indoor* tag
 - Indoor=room
 - Indoor=area
 - indoor-=corridor
 - Indoor =wall
- Pre-sets in the both tools set level and indoor tags easily

Additional : min_level= *; highway=elevator; repeat_on=1-5 ;

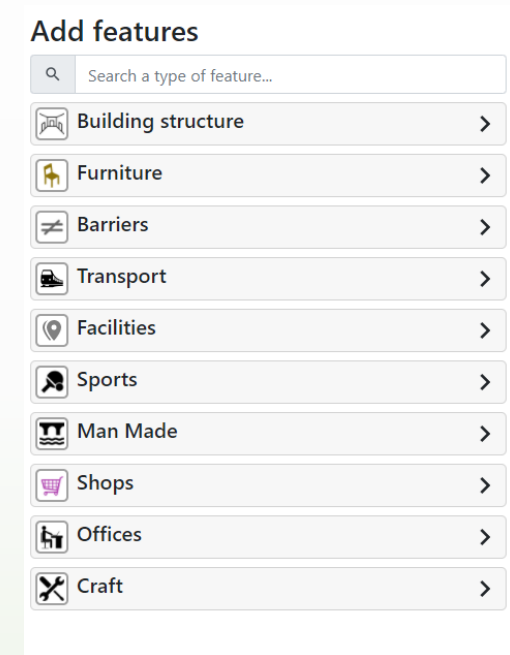


Contributor : [Peda](#) ([talk](#) | [contribs](#))

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

Mapping tips –tools

- JOSM plugins are advanced and provide many editing tools, image calibration, pre-sets ...
- May be not suitable for everybody
- OsmlnEditor is much simple to use
(Can start with zero mapping experience)
- If using OsmlnEditor, floor plan cannot be saved to use later
- Do ground survey to review edits with mobile tools



Osmlneditor presets for indoor features

Useful Links

- [https://wiki.openstreetmap.org/wiki/Simple Indoor Tagging](https://wiki.openstreetmap.org/wiki/Simple_Indoor_Tagging)

JOSM based tools

- <https://wiki.openstreetmap.org/wiki/JOSM/Plugins/indoorhelper>
- <https://wiki.openstreetmap.org/wiki/JOSM/Plugins/PicLayer>
- <https://wiki.openstreetmap.org/wiki/JOSM/Plugins/BuildingsTools>

OSMInEdit

- <https://wiki.openstreetmap.org/wiki/OsmInEdit>
- Talk from the SotM 2019 by the OsmInEdit developers Adrien Pavie, Andreas Dirks, Hannes Geißelmann, Thomas Sontag
<https://www.youtube.com/watch?v=MfkR8x-CIAc>



Image source: <https://img.zcdn.com.au/lf/50/hash/31623/14033856/4/Blue-Ribbon-Country-Dollhouse-BR39006.jpg>

**Thank you & enjoy
indoor mapping !!!!**