OpenOrienteeringMap

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Contents

- What it is, what it is not
- Origin
- Editions
- Orienteering features
- Imports
- Exports
- Editing OpenStreetMap
- Demos: Creating a Map, OSM ID Editor
- Q&A & Links

What It Is

- A website
- A quick and easy way to create a street-o type orienteering map
  - May be suitable for informal evening club events (if you have a shortage of "real" orienteering maps)
  - Great for training events
  - Great for lockdown-O
  - Intended for foot-O score events but some have adapted it for other event types
- Based largely on OpenStreetMap data
- Worldwide
  - But some regions better than others, both for source data quality, and frequency of updating on OOM
- Free and open-source

What It Is Not

- Not a standalone software application.

- Not the OpenOrienteering Project or their Mapper product.
  - which is a free and open source OCAD.

- Not for production of ISOM or ISSOM standard maps
  - I use some of the colours and styling rules but that is about it.
  - e.g. White = out of bounds houses/gardens on OOM Street-O maps but White = runnable forest on a "proper" orienteering map.

- Not high accuracy or high detail mapping
  - Very dependent on quality of local OSM contributions.

- Not aligned to Magnetic North
  - Or OS Grid North
  - Actually aligned to WGS84 (GPS) North

Origin

- MSc project way back in 2008
    - Using a GIS to create Street orienteering maps
    - Better/quicker way of creating the orienteering maps used in SLOW's street series.
    - Used to be created by tracing A-Z maps in bitmap graphics applications (MS Paint, Powerpoint etc).
- GIS was better but GISes had (and still have) a steep learning curve
- OSM project "Walking Streets" created PDFs of simple maps to allow people to annotate and add data back into OSM.
- Work projects created dynamically generated maps of the 2011/2011 UK censuses
- Combined the two together and launched in ~2010.
- First UK, then the world
- The GUI is rather clunky because it is old and has been adapted/extended over the years rather than being rewritten.

Editions

- UK edition
  - Updated every morning from the latest OpenStreetMap.
  - 10m contours from OS open data (except N.I.)
  - Hosting and improvements were funded by British Orienteering (2012-14) & The Orienteering Foundation (2016).
  - Did used to do minutely updates from OSM but needs a decent server due to the high level of edits performed in the UK, so discontinued. Daily clear and rebuild more smooth operationally.

- IE edition
  - Same database as UK edition but no contours.

- DK edition
  - Daily updates.

- AU edition
  - Brand new. Street-O has long been very big in Australia
  - Daily updates.

- Global edition
  - Yearly/ad-hoc updates, (takes 2-3 weeks to rebuild the database)

- Blueprint edition
  - Black-and-white outline maps – not intended for orienteering
  - Colouring in maps!

Orienteering Features

- **Three map styles**
  - Street-O – faithful to the SLOW Street-O "style"
  - Street-O No-Rail
  - Pseud-O – borrows colours/styles from ISOM

- **Start/Finish**
  - Always the same.

- **Controls**
  - Add manually or via imports.

- **Crossing points**
  - Intended for showing where to cross busy roads.

- **Do-not-cross**
  - I don't map OSM gates on OOM, as access details are often missing/incorrect for pedestrians/orienteers.
  - Can also be used on paths in locked parks, etc.

Imports for Controls

- Postboxes
    - Currently UK only
    - From Dracos Postcode Locator project as this includes the postbox codes
- Blue Plaques
    - From OpenPlaques.org
- POC posts (planned)
    - Will import direct from OSM using Overpass API
- POIs (planned)
    - Monuments, Fountains
    - Not trees or benches as these already on OOM map.
    - Will import direct from OSM using Overpass API.
- All of these imports are editable at source, and such edits will available immediately for importing into OOM

Exports

- Printing map directly
  - Almost pure vector **PDF** for high-quality printing
    - Only bitmaps are the logo and areal textures (e.g. undergrowth lines)

- Cluesheet for Score Race
  - At the moment, contains imported in answers
  - Plan to separate out cluesheet and answer sheet

- Routegadget 2
  - Low-resolution (72dpi) **JPG**
  - **JGW** "worldfile" for geolocating JPG in Routegadget 2
    - In EPSG3857/EPSG900913 "Web Mercator" projection

- MaprunF and Google Earth
  - **KML** – Start/finish and controls only
    - Doesn't (yet) contain descriptions or point score
  - **KMZ** – Map (high resolution 144dpi **JPG**), crossing points and do-not-cross markers, but no controls or start/finish

- Please note that although the "sheet", controls and overprint features are saved in OOM, the background map is not saved and so is reconstructed every time your map is loaded, from the latest database. Bear this in mind if creating and saving a map on OOM a long time in advance of your event.

Editing OpenStreetMap

- OpenStreetMap (OSM) is a database, not a map.

- It is the Wikipedia of spatial data

- Many maps are created from it, including osm.org, Strava, MapBox and OOM. Far more than you may realise (some commercial organisations don't prominently show that the source is OSM).

- One of OOM's goals was to get orienteers editing OSM more.

- General rule – show what is on the ground.

- Look at existing examples and mimic them.

- Remember it is a general purpose database and not an orienteering map. Be especially mindful of this if deleting or modifying someone else's work.

- Please don't "tag for the renderer"
  - It's however fine to just add the features needed for your event rather than doing a comprehensive survey of the neighbourhood

- Easiest way to edit is via the built in "ID" editor on the OSM website. Advanced users can use various other websites, applications or smartphone apps.

Editing OpenStreetMap : Sources

- OSM does not have a fixed feature taxonomy but it is good to follow convention – documented in the OSM wiki – so that your work appears in major renderers where appropriate.

- OSM has good quality high-resolution aerial imagery from Microsoft Bing, ESRI World Imagery or Maxar which can be used to trace features (but this can be 10-20m off the correct location)

- You can also trace from OS StreetView. Advanced users can also trace or even directly import OS open data.

- Don't use copyrighted non-open sources, e.g. "proper" orienteering maps (OS non-open copyright) or Google Maps
  - the odd glance at Google Streetview or an orienteering map to jog your memory or suggest where to go to survey, is probably ok but don't actively use it to derive mapping data

- Bulk imports are frowned upon by the community. Don't do it.

- Best way is to physically walk the map. Annotate a print-out and upload it, or use a smartphone app (e.g. Vespucci or OSMAnd~) to edit as you walk.

- If you record a GPS route (e.g. on a Garmin) you can upload it (e.g. via Strava) and then export and upload the GPX file to OpenStreetMap, and then trace it.

Editing OpenStreetMap : OOM

- For **background map** edits, there is a delay before they appear on OOM.
    - For UK/IE/DK, Typically 12-36 hours. Edits before 8pm should appear by 8am following morning.
    - For AU, typically 24-48 hours due to timezones.
    - For Global, the delay is ad-hoc but typically 6 months to a year.

- I use the daily database OSM country "slices" generated by Geofabrik, and rebuild my UK/IE/DK/AU database in early morning (local country time).
    - Geofabrik typically takes 2-6 hours to slice the world, and then my country rebuild takes around 15 minutes.

- Edits **to imported features** (that appear as controls rather than as map features) have no delay. Edit at source and then they will immediately be available for import. [Currently no OSM control import, but planned.]

Editing OpenStreetMap : POCS

- Special appeal: Permanent Orienteering Course markers
  - Currently around 500 in the world (=20 courses?)
  - Let's get more in OpenStreetMap
  - & I'll build an importer into OOM

- Proposed tag list
  - **sport=orienteering**
  - **orienteering=marker**
  - **marker=post** (if dedicated to orienteering) or **marker=plate** (if attached to something else, e.g. an amenity=bench, barrier=fence or building=yes). Also OK: **marker=ground, marker=pole**.
  - **ref=*** – optional but strongly recommended.
  - **answer=*** – optional. "answer" is a non-standard tag so there is no danger of this being rendered by a non-orienteering map.
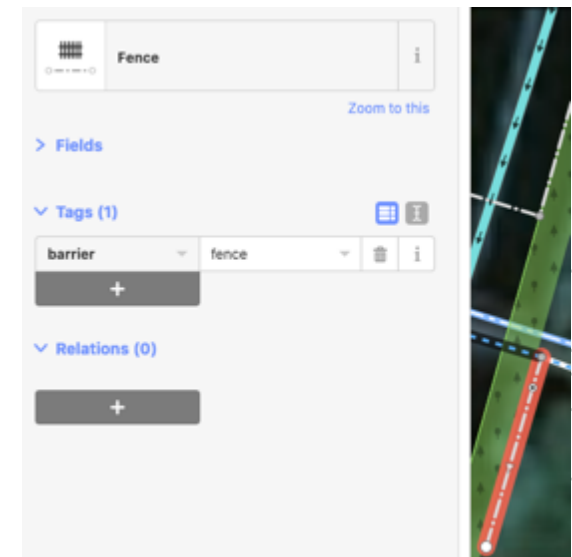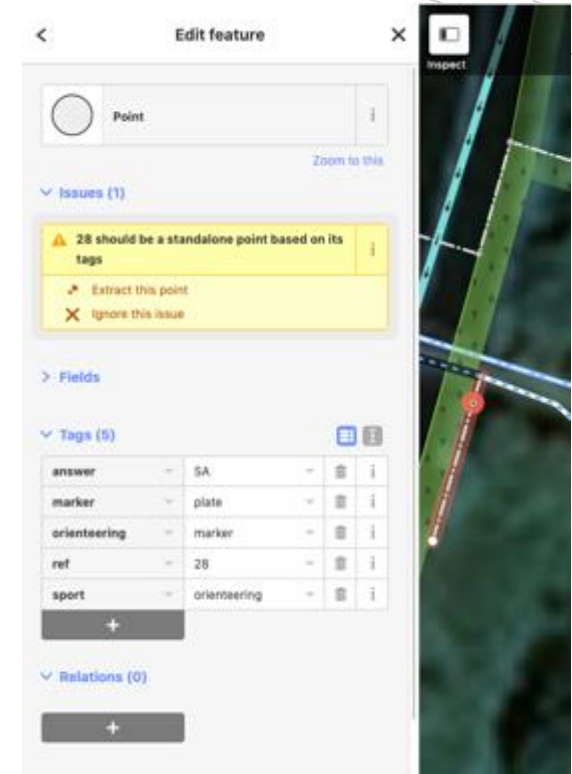
OpenStreetMap POC Examples

- sport=orienteering
- orienteering=marker
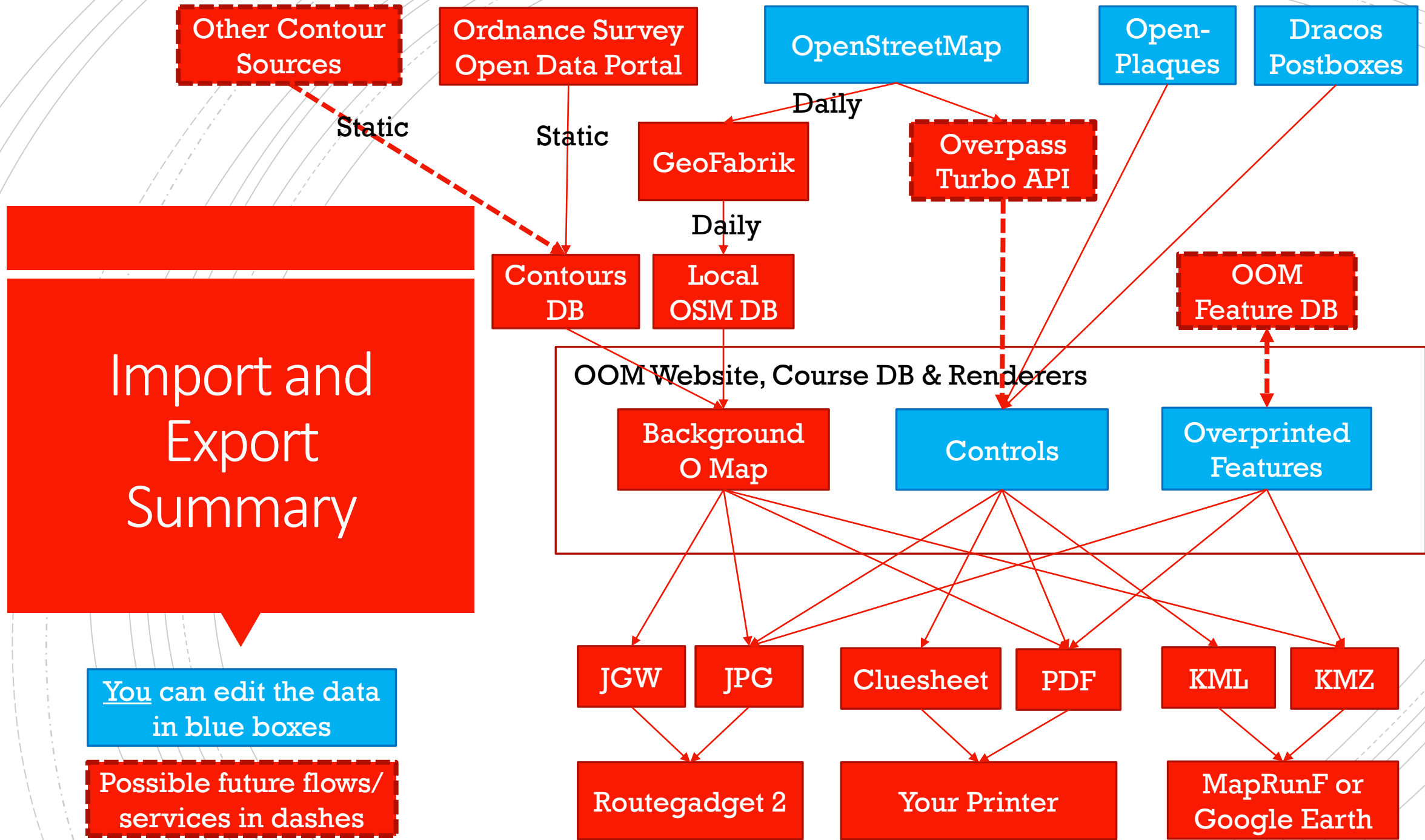- marker=**post**
- ref=41
- answer=M

OpenStreetMap POC Examples

- sport=orienteering

- orienteering=marker

- marker=**plate**

- ref=28

- answer=SA

- The "way" that this node is part of has these tags:
    - barrier=fence

Editing OpenStreetMap : POCS

- Note that markers with these tags won't appear in the main OSM map
  - unless you add something like barrier=bollard (but remember don't tag for renderer)
- Also won't appear in the regular OOM map as background features (except fences/benches)
  - but can appear as control sites if I put in an importer.
- Power OSM editors can put in a "relation" linking all controls in a POC, or even a relation (with sequence) for each course in the POC.
  - I am not planning on pulling in relations, at the moment, but those seeking to "fully" set up their local POC in OSM might be interested in doing this.
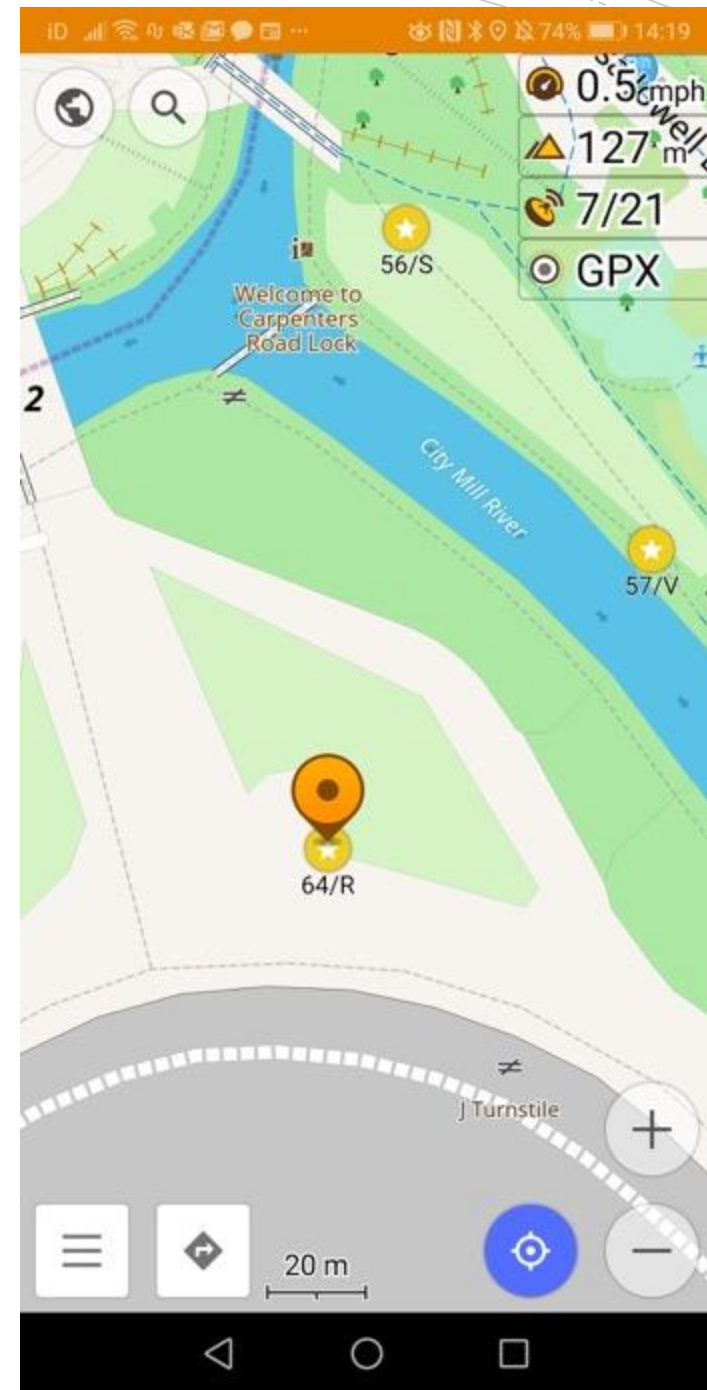 - Beyond the scope of this talk.

Demos

- Creating a Map

- OSM ID Editor

  - Background map edit
  - Imported feature edit

Q&A & Links

- OpenOrienteeringMap: https://oomap.co.uk/gb/

- GitHub (project code and tasklist): https://github.com/oobrien/oomap/

- Occasional blog: https://blog.oomap.co.uk/

- Comments: https://blog.oomap.co.uk/oom/#comments

- OpenStreetMap: https://openstreetmap.org/

- OpenStreetMap ID Editor guide: https://learnosm.org/en/beginner/id-editor/

- Tagging POC posts when editing in OSM: https://wiki.openstreetmap.org/wiki/Orienteering

- Where POCs are in OSM currently: https://overpass-turbo.eu/?w=%22orienteering%22%3D*+global&R

- Keys and values used for orienteering on OSM: https://taginfo.openstreetmap.org/keys/?key=orienteering