Road routing using OSRM

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OSRM

Open Source Routing Machine

Note: There's more such tools available - I've just used this one more.

Check out
https://wiki.openstreetmap.org/wiki/Routing
for a (hopefully!) full listing

http://project-osrm.org/

Github:
https://github.com/Project-OSRM/osrm-backend/

API doc:
http://project-osrm.org/docs/v5.22.0/api/

What can this do?

watchout: longitude first,
latitude later in API call

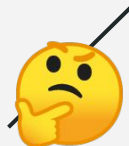https://osrm-decentralized.github.io/demo

- On-road routing (incl waypoints)
- Distance Matrix
- Map matching (Align a wavering GPS trace to the road)
- Trip optmization
- Debugging road networks (and fixing 'em!)

Explore the API: http://project-osrm.org/docs/v5.22.0/api/

Benefits of Open Source

What all do the strict licensing terms of paid mapping services forbid you from doing?

- It's YOUR data

- You can ARCHIVE the results and use them later

- No worries about limits

- Build up and combine geospatial data

- Scale horizontally for different regions, speed up processes

🤔**How about we dockerize this, and make it easy for folks to spin up their own?**

..and so **osrm-decentralized** was born

https://osrm-decentralized.github.io/ (basic intro page)
https://github.com/osrm-decentralized
A loose collection of projects to tackle various aspects of the puzzle

! Props to Srihari Thalla - docker whiz and hoster for a live all-India OSRM instance (link)

Let's spin one up! osrm_custom_pbf

https://github.com/osrm-decentralized/osrm_custom_pbf

Pick a state from https://server.nikhilvj.co.in/dump/

- set up local folders
- shape docker commands
- run backend
- run frontend

Get yer Openstreetmap Data dump!

.PBF format : Binary, compressed (read all about it)

https://download.geofabrik.de/ - Daily extracts for country

https://server.nikhilvj.co.in/dump/ - Indian states (buffered) (you're welcome 😎)

https://export.hotosm.org/en/v3/ - Custom areas (with some nice options)

Clip your own area from a bigger pbf using command line tools: osmconvert / osmosis

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More to do!

Customizing the profiles that OSRM uses to interpret road networks

https://github.com/osrm-decentralized/osrm_profiles_india

Check out "profiles/car-modified.lua"

- speeds, heights, turning restrictions

… And more…

- Translate driving directions to Indian languages :

  https://github.com/Project-OSRM/osrm-text-instructions

- A base to build up ETA with live traffice inputs : use "annotations" to fetch detailed list of nodes, ways the path is traversing

- Many features yet to explore in the galaxy of routing tools (wiki)

Okay!

More nitty gritties in OSRM: Mailing list:

https://lists.openstreetmap.org/listinfo/osrm-talk

GIS StackExchange:

https://gis.stackexchange.com/questions/tagged/open-source-routing-machine