

OpenStreetMap

OpenStreetMap creates and provides free geographic data such as street maps to anyone who wants them. The project was started because most maps you think of as free actually have legal or technical restrictions on their use, holding back people from using them in creative, productive, or unexpected ways.

OpenStreetMap consists of three key parts: data, wiki and software. Data consists of nodes and ways which are tagged with feature descriptions (meta data). Second key part is the wiki, which gathers all available information about OpenStreetMap. Third part is the software developed around and for the OpenStreetMap which is easily accessible from subversion repository. Everything in OpenStreetMap is open sourced, and every decision is crowd sourced which means everyone can be a part of OpenStreetMap.

OpenStreetMap uses two licences, GPL for the software and CC-BY-SA for the data. There are some issues with CC-BY-SA, as it does not cover database data, so there are plans to use new ODbL (Open Database Licence) which was developed by OpenDataCommons.org specifically for this purpose. Basically this means that you can do what ever you want with the data as long you mention original creator and the licence.

One question arises, why would someone use OSM when there are google.com/yahoo.com it all maps. True, it's all maps but .com ones are just pictures of data and you can only use is according to their licences. You can add points of interest (POI) but in the end even those can't be edited. With OSM you get all the vectors and meta data and you can use it for anything, even create paper maps that can be sold. Because of this, OpenStreetMap enables creation of different services like OpenRouteService (<http://openrouteservice.org/>) providing routing services, or OpenStreetBrowser (<http://www.openstreetbrowser.org/>) providing nearby POI information and routing services. OpenStreetMap allows you to create maps for specific purposes, like OpenCycleMap (<http://www.opencyclemap.org/>) providing a map for cyclists or OpenPisteMap providing a map for skiers about ski resorts and ski lifts. Cloudmade (<http://maps.cloudmade.com>) makes beautiful maps with different styles, and allows users to edit and create new styles which can be embedded into websites using Cloudmade API.

Biggest argument against OSM is that OSM data is not 'supported', because there is no company behind it in a traditional sense, and it does not have sufficient coverage for any real use. But OSM has quality, first hand surveying and local knowledge which is included in data, cannot be replaced. And quantity is just a matter of time, even now there are areas which are better covered than .com providers. Still, companies buy/license data with built in errors and than spend more money to correct those errors.

OSM user base is approaching 150,000 users, and to be honest only a small percentage actually edits OSM data, around 10% per day, but edit rate is similar to growth rate which is a good thing.

There is currently 1 billion of GPS points, 411 million nodes, 31 million ways and 170000 relations in OSM database. Database snapshot is bigger then 160Gb (6.1Gb with bzip2 compression) and its just a XML file. Summing it all up ends with a grand total of 34mil km of ways (20 May 2009), which is impressive.

Data is so good that Flickr uses OSM to display geotagged photos for places where their native map provider lacks detail (Yahoo). Also there are initiatives

to integrate Wikipedia and OSM maps, so that articles could include a map of the location.

Only one question remains, "How can I contribute?", well easy. First you must sign up for an account on <http://openstreetmap.org>. After signing up there are 5 steps: collect, upload, edit, tag and render.

First step is collecting data. Basic data comes from GPX log files which contain GPS traces, other than GPXs there is satellite imagery like Landsat or Yahoo that can be used for tracing features. Also you can use paper maps or any other source of data, but most important thing is to make sure and double check that data licence does not prohibit use of that data on OSM, sadly, most copyrighted maps do. OpenStreetMap wiki contains extensive information about software/hardware combinations used for collecting data.

After collecting, GPX data it should be uploaded to OSM. This helps in editing because everyone can then use it to edit OSM. Other collected data can be used only as reference.

Next step is to edit map features, create or modify them. For this purpose there are three editors Potlatch, Josm and Merkaartor, others do exist but have a small user base. Potlatch is Flash based editor integrated into OSM website, and allows quick editing from any web browser that supports flash. Josm is written in Java and has a lot of advanced features like audio marker integration and a lot of plugins. Merkaartor is written in c++ and has a nice rendering engine with different styles. After editing, features must be tagged. Tags are meta data about features and standard feature set is available on OSM wiki (http://wiki.openstreetmap.org/wiki/Map_Features). If you find that some feature is missing or lacking detail, you can always propose a feature, everything is crowd sourced. Like map features, proposed feature list and voting process are described on wiki.

Last thing to do is map rendering. OpenStreetMap uses Mapnik rendering library by default, but there are others like Osmarenderer which uses Tiles@Home distributed rendering platform. If you want to render your own maps check the wiki, everything is explained.

There are other ways to contribute, you can debug data using services like OpenStreetBugs (<http://openstreetbugs.appspot.com/>), or GeoFabrik OSM Inspector (<http://tools.geofabrik.de/osmi/>) which improve general data quality. More advanced users can help develop and debug OpenStreetMap code. You can also organize mapping parties and be a part of crowd sourcing process.

""If everyone would map their own neighbourhood, village, city, country we would soon have a map of the whole world""