An introduction to OpenStreetMap and some use in research

Luca Delucchi

Fondazione Edmund Mach - GIS & Remote Sensing Unit;
http://gis.cri.fmach.it

Geoinformatics FCE CTU 2012, Praha

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OpenStreetMap is:

- a collaborative geographic project, it was created for road maps, but it grew up and now it's the biggest free geographic database

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OpenStreetMap is:

- a collaborative geographic project, it was created for road maps, but it grew up and now it's the biggest free geographic database

- like Wikipedia for geographic data; the success of project thanks to the minor cost of technology to use (internet and GPS)

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OpenStreetMap is not:

- it's not a GPS tracks collector

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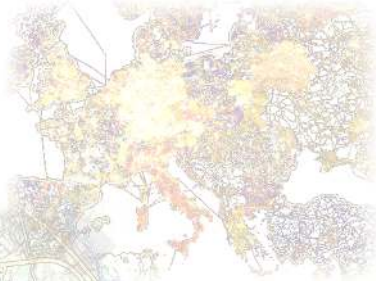Why contribute
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OpenStreetMap is not:

- it's not a GPS tracks collector
- it's not a Google Maps copy

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OpenStreetMap was created because in 2004 most of geographic data was not free, you had to pay or sign some licenses that limited your freedom.

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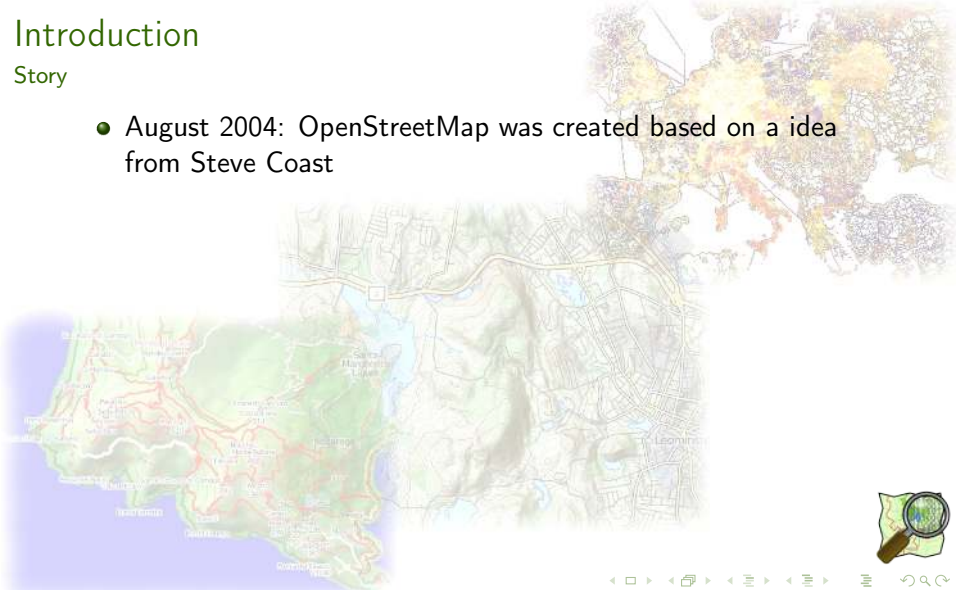
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- August 2004: OpenStreetMap was created based on a idea from Steve Coast

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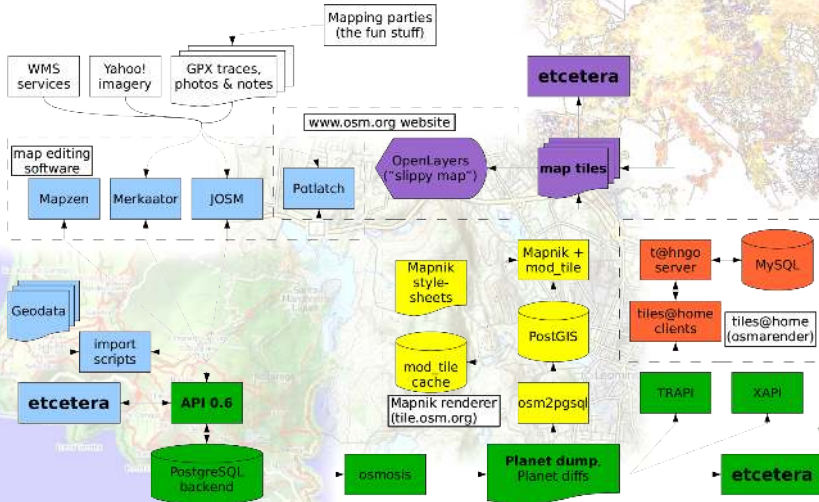- November 2011: 500.000 registred user

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OpenStreetMap Database Statistics
Users and User gpx Uploads (track points)
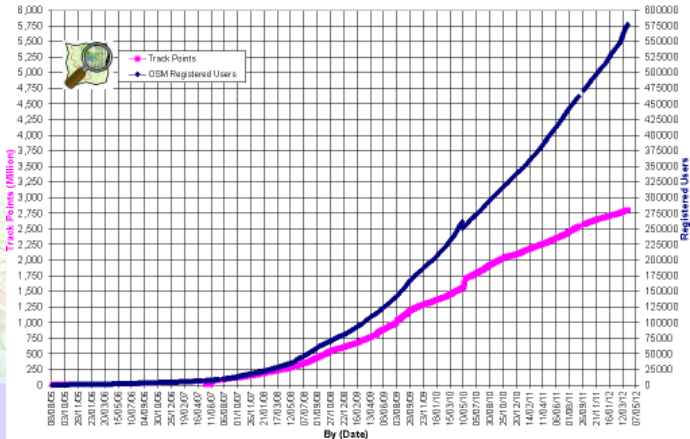
Component overview

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Quality check

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Quality is one of more important element of OpenStreetMap ...

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Quality check

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Quality is one of more important element of OpenStreetMap ...
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Quality check

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- check by other contributors (peer review), software is available
  to help with this work:
  openstreetbugs, OWL, duplicate nodes, OSM Inspector

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  openstreetbugs, OWL, duplicate nodes, OSM Inspector
- scripts, for automatic fixing

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Why contribute
Fun

- It's funny. . .

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Why contribute
Fun

- It's funny...
- ...you can explore places close to you that you didn't know yet...

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- It's funny...

- ...you can explore places close to you that you didn't know yet...

- ...you can map during your outdoor sport (bicycle, hiking, run, etc.)...

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Why contribute
Fun

- It's funny...
- ...you can explore places close to you that you didn't know yet...
- ...you can map during your outdoor sport (bicycle, hiking, run, etc.)...
- ...**Warning: OpenStreetMap can create addicted people** :-)

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Why contribute

Humanitarian help

HOT = Humanitaria OpenStreetMap Team

(c) Erica 'junipermarie' - licenza cc-nc-sa

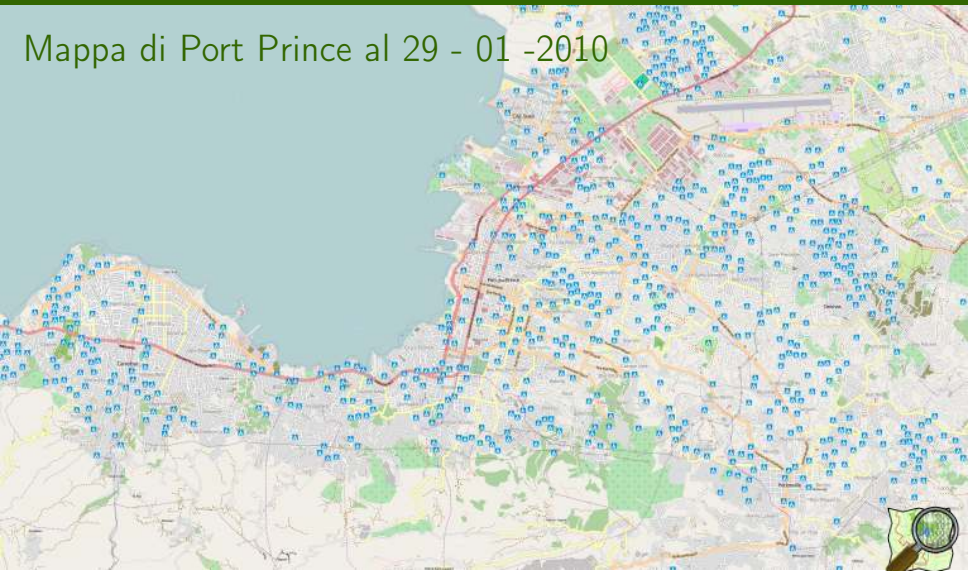(c) Fairfax County Urban Search & Rescue Team

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Mappa di Port Prince al 30 - 12 -2009

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Mappa di Port Prince al 29 - 01 -2010

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Mappa di Port Prince al 29 - 01 -2010

MapAction coordinator

Without a doubt, OpenStreetMap has helped to save lives.

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Comparison with 4 map services

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OpenStreetMap is increasingly used in commercial and professional applications.

`http://switch2osm.org`

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Why contribute
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OpenStreetMap is increasingly used in commercial and professional applications.

- replace proprietary solution for webGIS using OpenLayers/Leaflet libraries with several tiles repository

http://switch2osm.org

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- routing applications

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- routing applications
- mobile applications

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OpenStreetMap is increasingly used in commercial and professional applications.

- replace proprietary solution for webGIS using OpenLayers/Leaflet libraries with several tiles repository

- routing applications

- mobile applications

- a lot analysis using raw data

    http://switch2osm.org

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Base layer
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Acesap
webGIS
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Base layer

Fondazione Edmund Mach
Created by GRASS Cartographic Composer developed by Anna Kratochvilova

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OpenStreetMap
Temperature
Martijn van Exel

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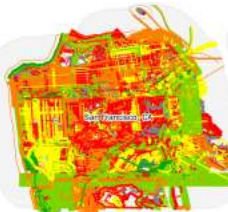**Use data**
Community

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Social

Community score card
• 95% of edits done by
12% of users
• 9% untouched
TIGER
• 4.8 avg version
increase of TIGER
made
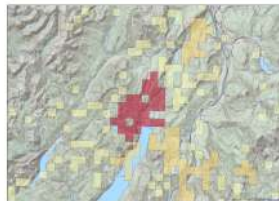• 8.3% of features
touched in last 3
months, 40% in last
year

77°

OpenStreetMap
Temperature
Martijn van Exel

OpenStreetMap
MPV
Maurizio
Napolitano (Napo)

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Some links

www.openstreetmap.org

<u>mail</u>: http://wiki.openstreetmap.org/wiki/Mailing_lists
<u>irc</u>: http://wiki.openstreetmap.org/wiki/IRC
<u>wiki</u>: http://wiki.openstreetmap.org/wiki
<u>forum</u>: http://forum.openstreetmap.org/
<u>help</u>: http://help.openstreetmap.org/
<u>research</u>: http://wiki.openstreetmap.org/wiki/Research

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Thanks to...

Steve Coast, Simone Cortesi, Schuyler Erle, GIScience Heidelberg
University, Edoardo Marascalchi, Mikel Maron, Maurizio
Napolitano, Ivan Sanchez Ortega, David Paleino, Frederick Ramm,
Niccolò Rigacci, Dane Springmeyer, University College London,
Martijn van Exel.....

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