



OpenStreetMap

(and the new Social Phenomena of Mapping Parties)

FOSS4G, Friday 15th September, 2006

Nick Black

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Introduction

- Nick Black - nick@blacksworld.net
- Recently graduated from The Department of Geomatic Engineering, University College London
- Working with OpenStreetMap - www.openstreetmap.org

With funding from:

**Royal
Geographical
Society**

with IBG

Advancing geography
and geographical learning





Introduction

- Geo-data is not free
- In most countries you must pay the national mapping agency to license the data
- To buy the entire Ordnance Survey National database of the UK would cost £50 Million (€73 Million)



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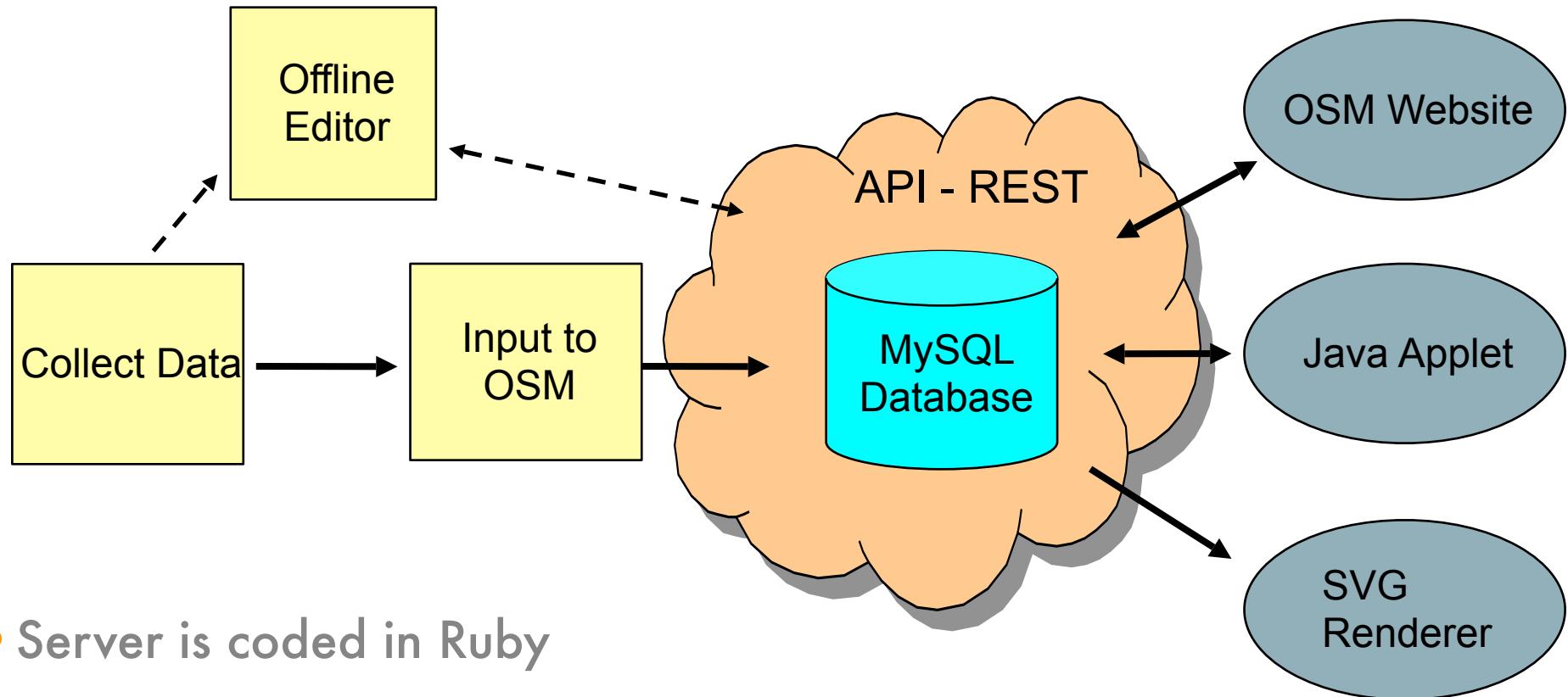
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Enter OpenStreetMap:

“The OpenStreetMap Foundation is an international non-profit organisation dedicated to encouraging the growth, development and distribution of free geospatial data and to providing geospatial data for anybody to use and share.”

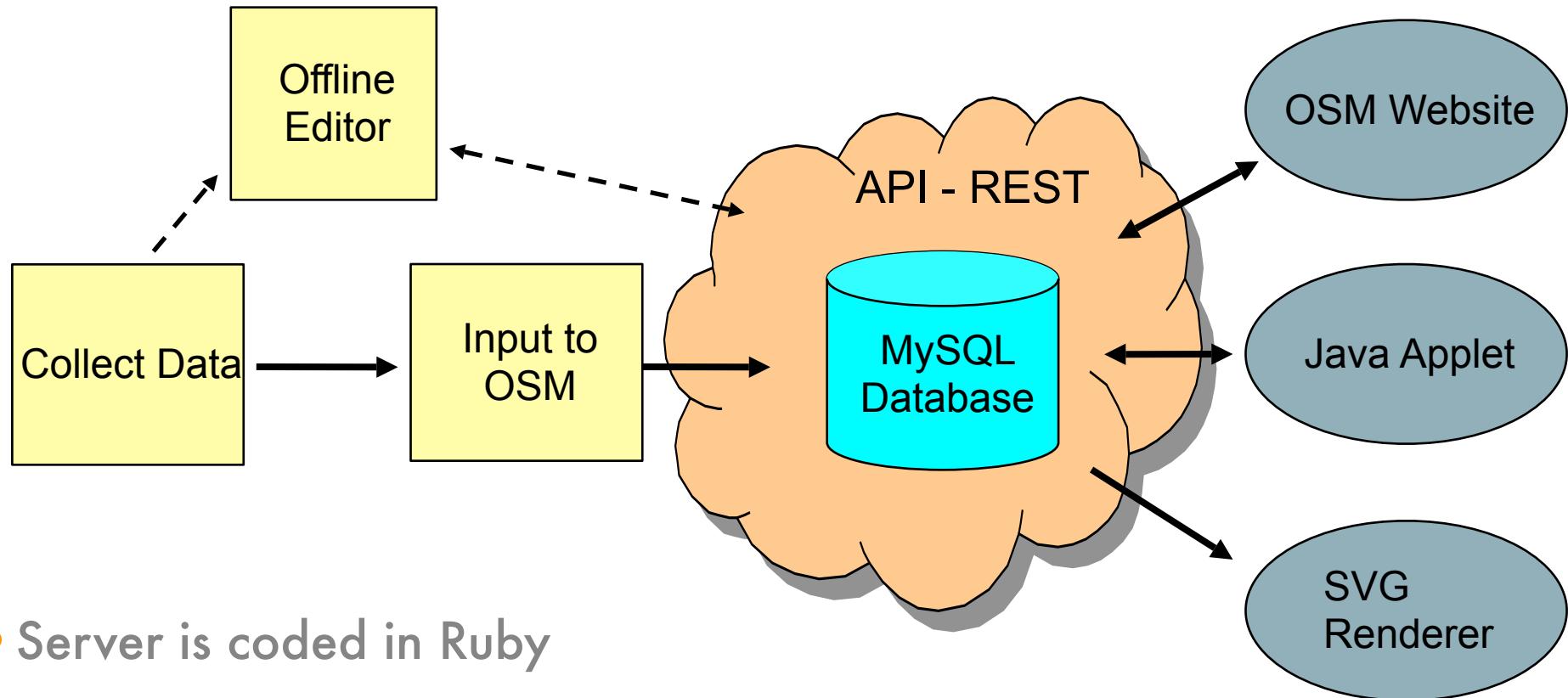


OSM





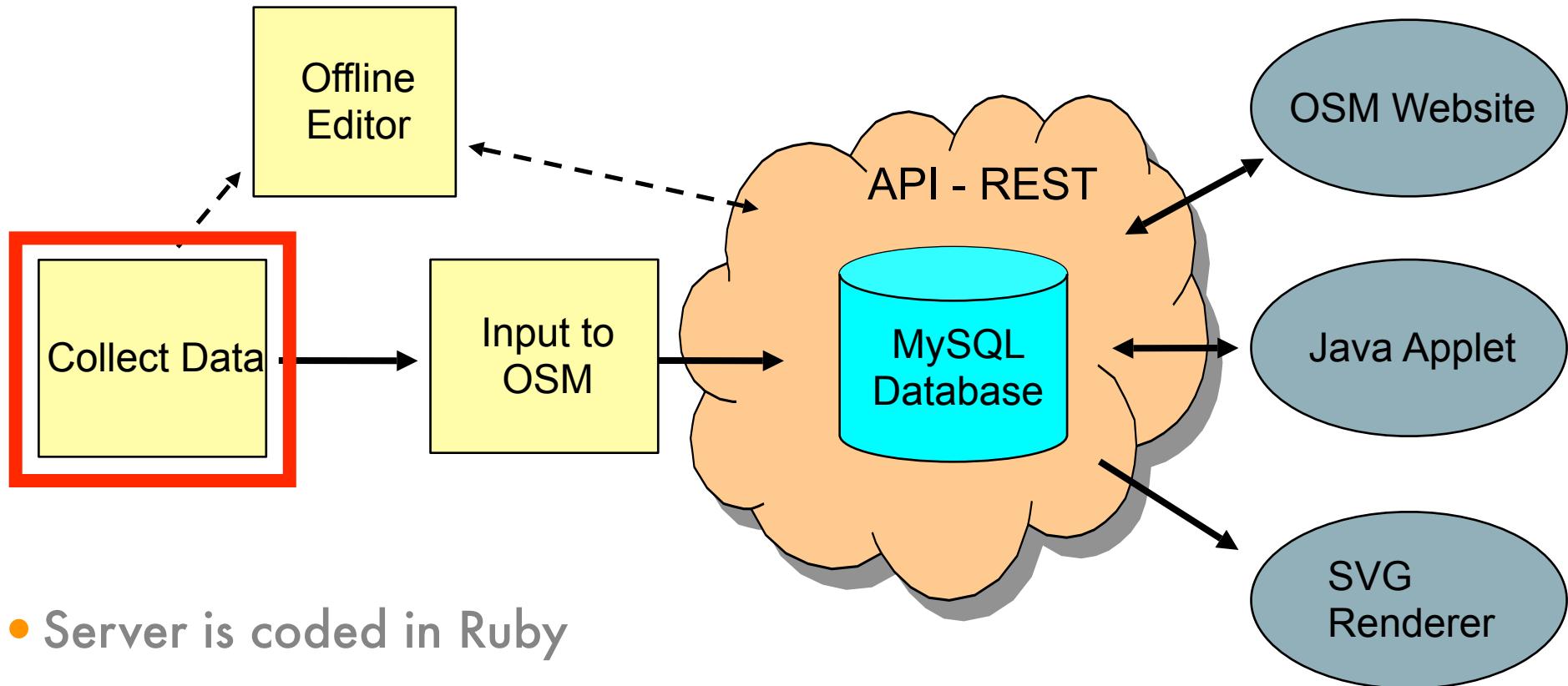
OSM



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- The entire site is currently being transferred to Rails



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Getting the data - the OSM way

Step 1 - Collect data using a GPS receiver





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So...



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Getting the data - the OSM way

Step 2 - Convert to GPX format (we recommend GPSBabel)

```
<?xml version="1.0"?>
<gpx
  version="1.0"
  creator="GPSBabel - http://www.gpsbabel.org"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="http://www.topografix.com/GPX/1/0"
  xsi:schemaLocation="http://www.topografix.com/GPX/1/0 http://www.topografix.com/GPX/1/0/gpx.xsd">
<time>2006-08-29T20:15:37Z</time>

<trk>
  <name>ACTIVE LOG</name>

  <trkseg>
    <trkpt lat="51.620322252" lon="-0.232705353">
      <ele>13.115112</ele>
      <time>2006-08-22T11:07:09Z</time>
    </trkpt>

    </trkseg>
  </trk>
</gpx>
```





Getting the data - the OSM way

Step 3 - Upload to OSM

The screenshot shows the 'Your GPS Traces' page on the OpenStreetMap website. The user is logged in as nickblack1@gmail.com. On the left, there's a sidebar with links to 'Help & Wiki', 'News blog', and 'Shop'. Below that is a 'tags' sidebar with a list of locations like Bath, London, Malaga, Spain, etc. The main area shows a list of uploaded GPS traces:

Trace Name	Date	Points	Actions
bathtolon_nb_sun.gpx	21-Aug	4,586	more / map
bath_nb_sun.gpx	21-Aug	9,999	more / map
bath_nb_sat.gpx	19-Aug	9,284	more / map
august.gpx	17-Aug	6,409	more / map
Spain_nickb.gpx	24-Jul	2,679	more / map
From_Dell	09-May	1,709	more / map
London_Leeds_Bradford	28-Apr	1,880	more / map

- Data is instantly available via the web portal or the API

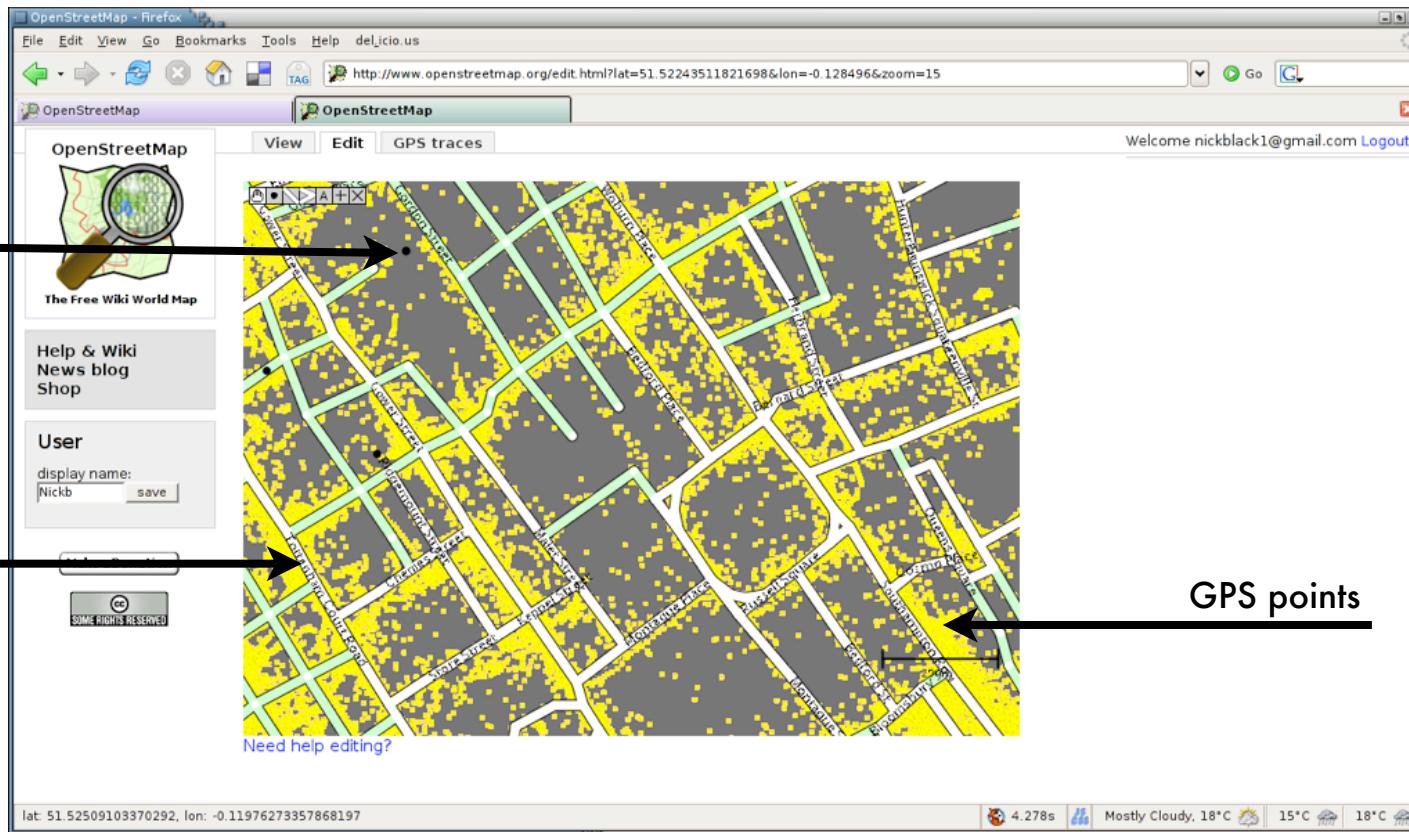


Getting the data - the OSM way

Step 4 - Edit the data

- Java applet allows basic editing: creating, naming and deletion of ways and segments

Nodes



Ways

GPS points



Quick detour - the OSM ontology

- OSM adopts an open, user driven ontology
- Based on key & values:
- Definitions come from user input via our Wiki and mailing lists



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- OSM adopts an open, user driven ontology
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```
<tag k="highway" v="motorway"/>
```



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Quick detour - database revisions

- The database stores all revision histories
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- The lawyers come knocking
- So far revision histories have not been publicly released because of legal concerns
- We have responsibility to protect peoples data

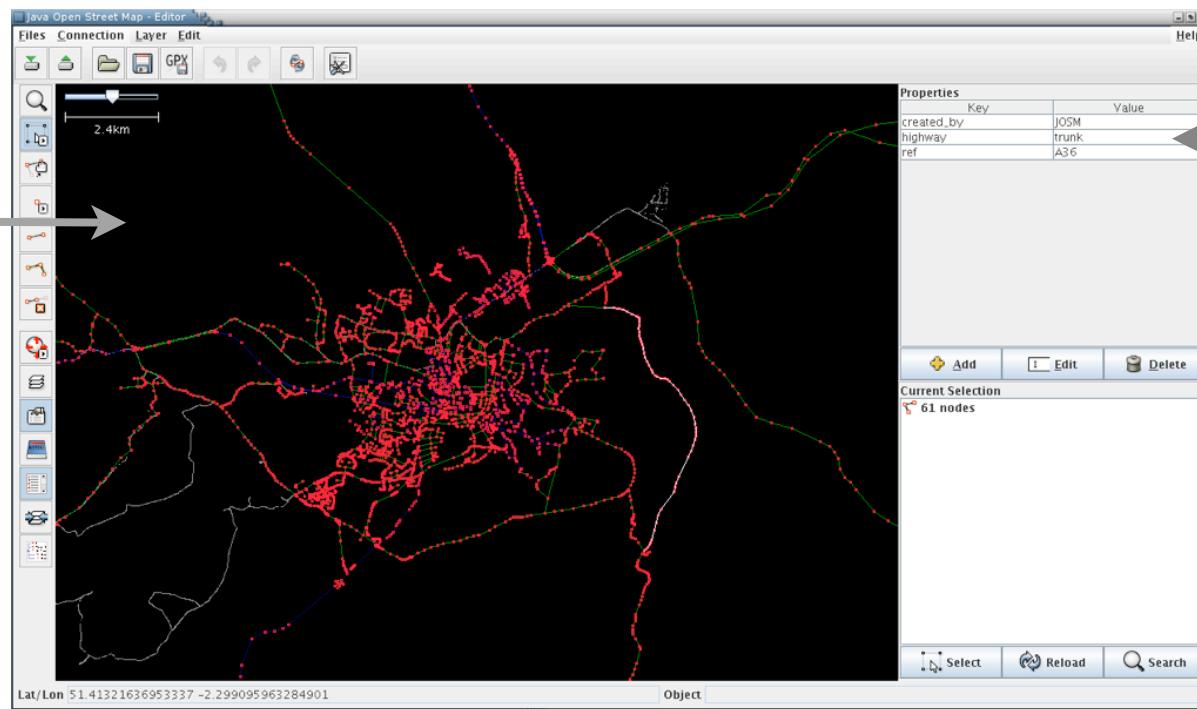


Getting the data - the OSM way

Step 4 - Edit the data - the offline editors

- JOSM - a Java based OpenStreetMap editor
- Offers additional functionality to the online applet
- Targeted at power users

Editing OSM data





Getting the data - GPS donations

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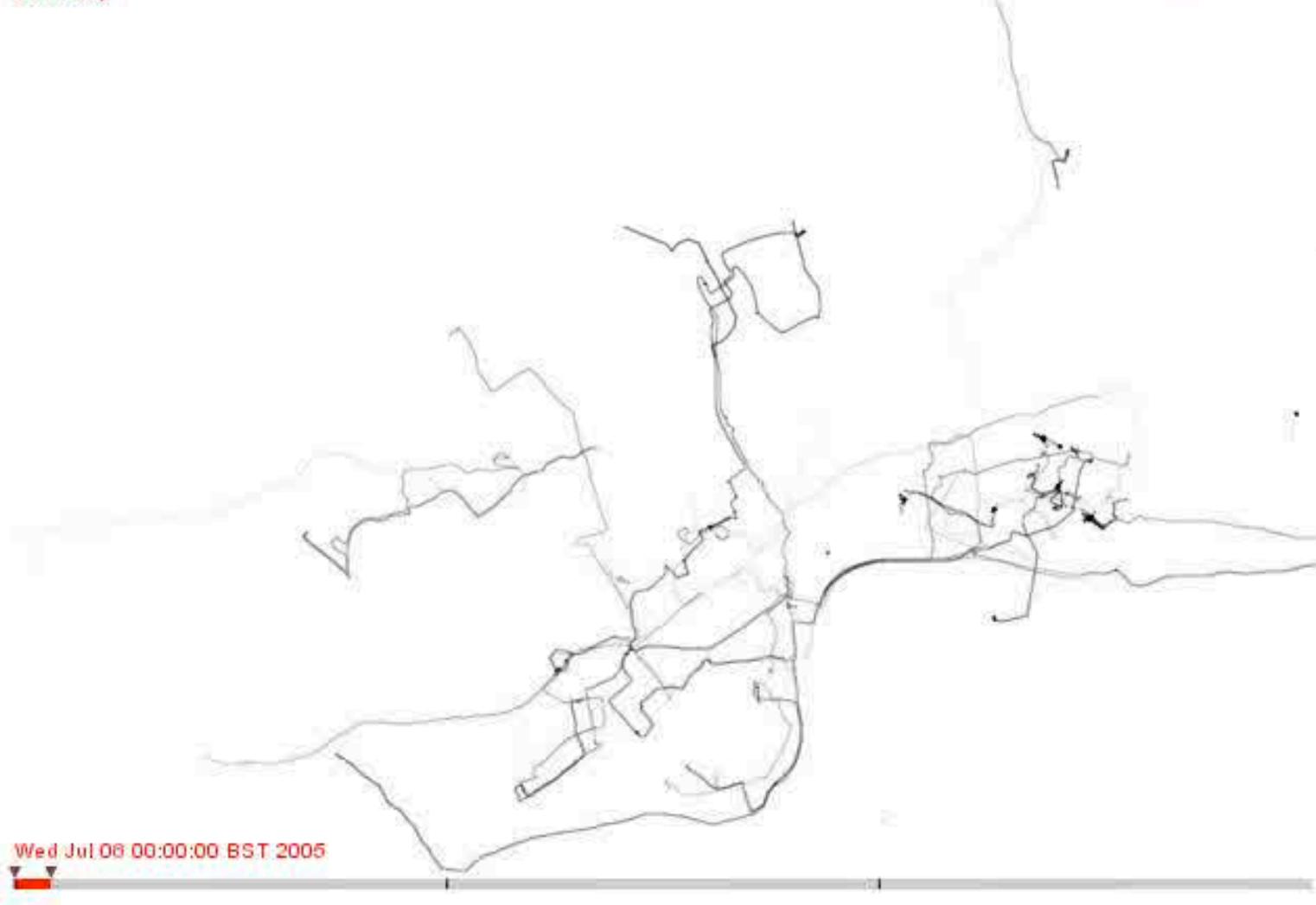
Getting the data - GPS donations



Getting the data - GPS donations

Wed Jul 06 00:00:00 BST 2005 to Sat Jul 09 00:00:00 BST 2005
120min window
5min step

www.ecourier.co.uk
www.somethingmodem.com





Using the data - the REST API

- OSM implements a RESTFUL API
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```
url = node?node=2000
```



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```
url = node?node=2000
```

Returns:

```
<?xml version="1.0"?>
<osm version="0.3" generator="OpenStreetMap server">
<node lon='-0.148588713362387' id='40' lat='51.5278975364617'>
  <tag k="hum" v="cheese"/>
</node>
</osm>
```



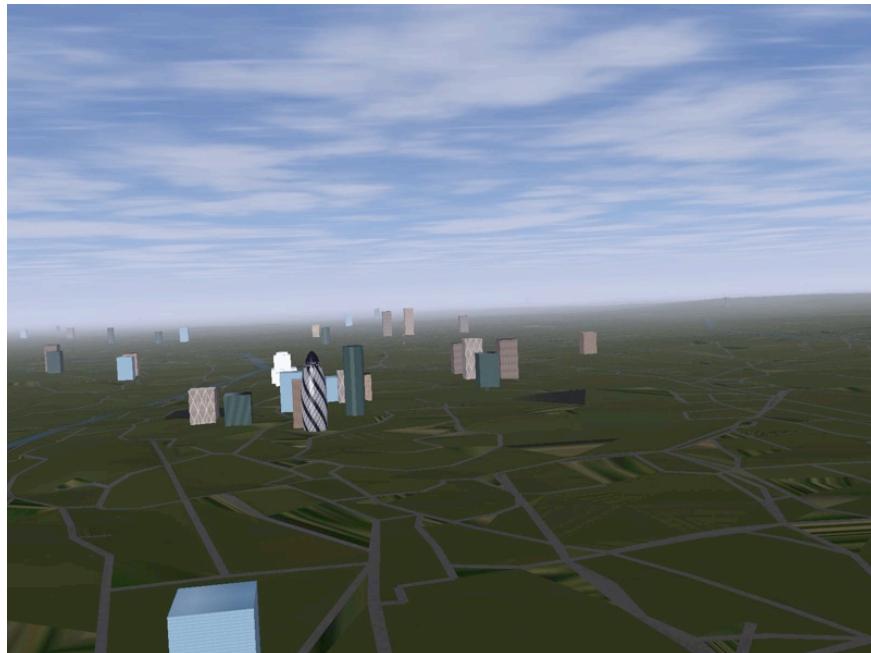
Using the data - planet.osm

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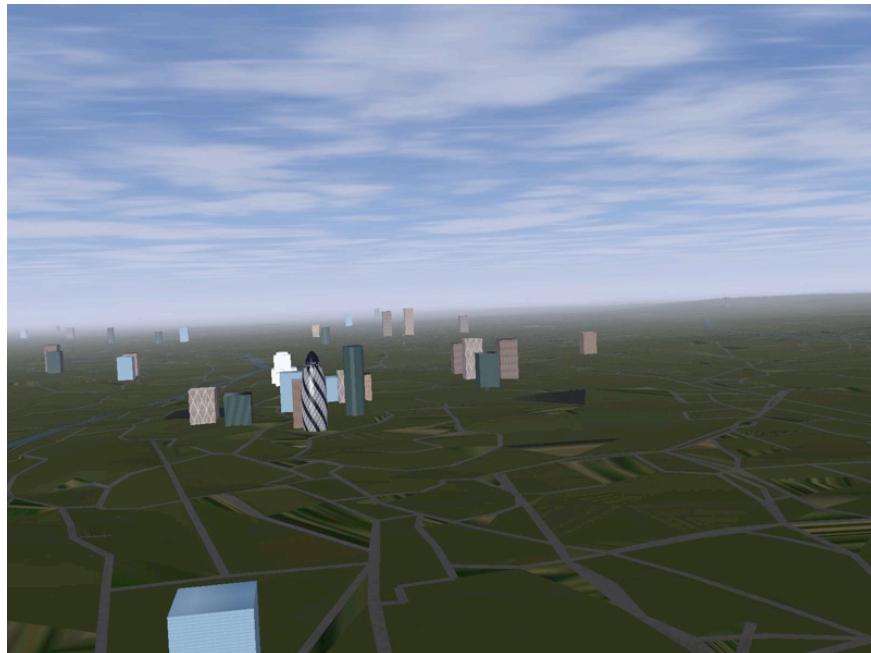
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<http://www.gpsdrive.cc>



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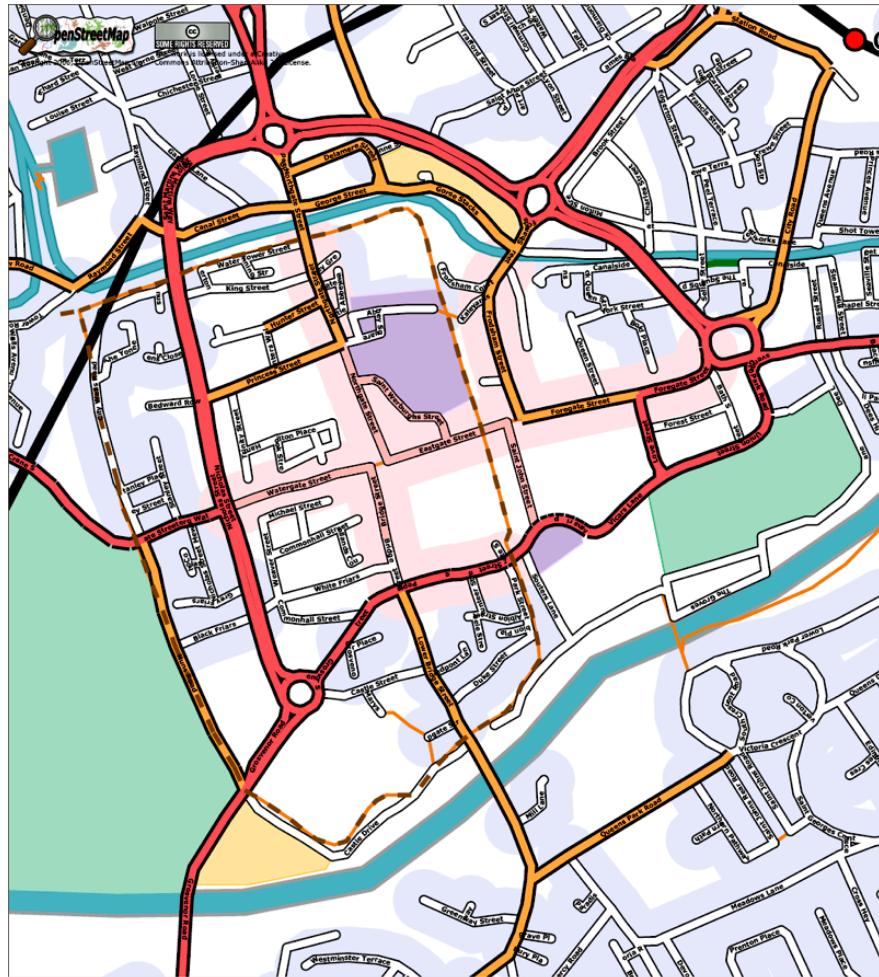
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“Chris Morley's Chester map is notable for its use of areas to mark parks, commercial and retail districts, and residential areas.”



What are people saying about OSM?

- Presentation 2.0 - audience interaction.
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- And we all know about Tele Atlas's Map Insight tool...



Map Insight



Find more:

Map Insight
LIMITED RELEASE

Welcome

Step 1 - Using any of the tools below please find the location of the issue you are reporting.

Step 2 - You can change the map by clicking to center, zooming, panning, and dragging.

Step 3 - Click on the Describe Issue button to add the details of the issue.

Find A Place

Lausanne

Street Address (e.g. 15 Jones St.)

City

Lausanne

State/Province

Postcode

Country

Switzerland

Enter Latitude and Longitude

Use decimal degrees, e.g. -71.25

Latitude

Longitude



Click on the map to re-center on that location.
Click and drag across the map to define a new map area.

Mark Location on Map





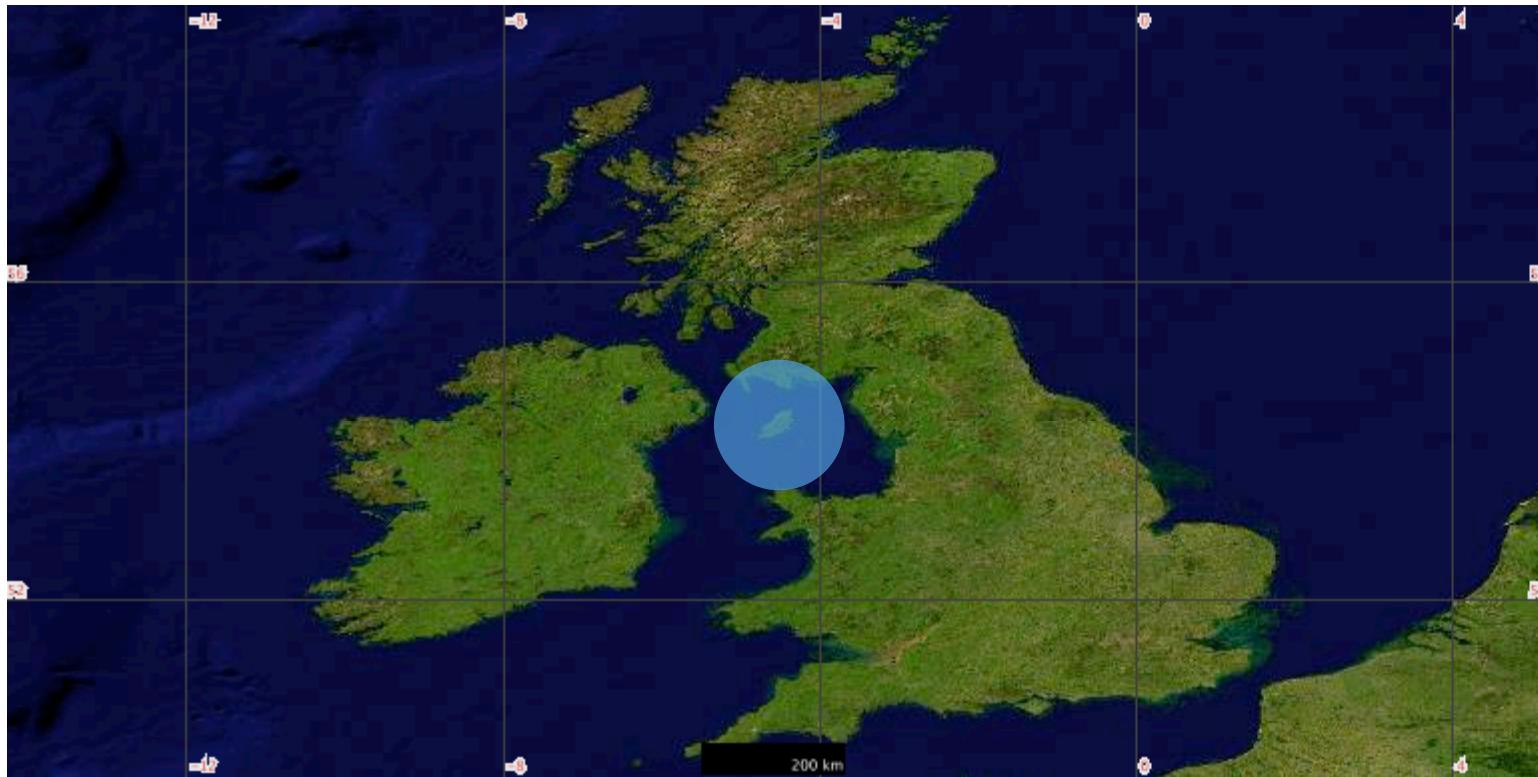
But free data can't be as good as proprietary data...

- Well what do you mean by good?
- Do you need to know where the kerb is?



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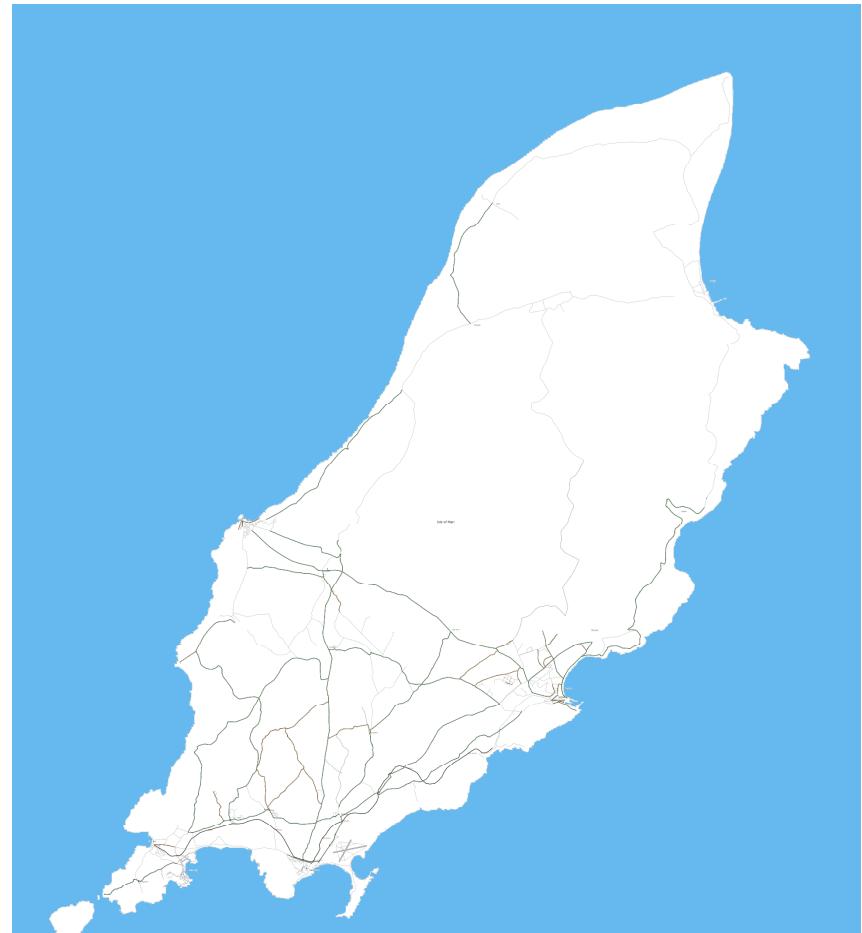


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- Canyng Sq. No Lye close to be seen
- OSM will never deliberately mislead its users



But free data can't be as good as proprietary data...

- OSM can rival the update capabilities of established geo-data vendors



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- OSM can rival the update capabilities of established geo-data vendors

An Ordnance Survey Spokesperson was quoted in the Guardian on Thursday 11th May, 2006:

"We make an average of 5,000 changes to our large-scale data every day," said an OS spokesperson. "It's not about mapping the Isle of Wight once - it's about continuing to map it ... It is expensive to collect detailed, accurate information on the ever-changing world to the level of detail our customers require."

From an OSM spokesperson:

"This month we made an average of 6,567 (Note 1) changes to our large scale-data every work day" said an OSM spokesperson. "It's not about mapping the Isle of Wight once - it's about continuing to map it ... and using enthusiastic and passionate volunteer surveyors we are collecting more information every day with 1,864 registered volunteers than the Ordnance Survey manages to do with a paid full time workforce of 1,490."



OSM Local - Isle of Wight Mapping Weekend, 2006



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- Free map data after:





OSM Local

- The Isle of Wight Mapping weekend kick started a series of local user groups and mapping events
- We even have contributors in Russia:



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OpenStreetMap — Википедия

http://ru.wikipedia.org/wiki/OpenStreetMap

Google Mail - Inbox ... Google Maps Main Page Wikipedia... OpenStreetMap Criticalflux bookashade - Easyme... VCD Quality Geomatic Engineerin... Google Mail - I... OINK Last.fm - The Soc... OpenStreetMap Flickr: Search REST - OpenStre... OpenStreetMap Saint Petersburg ... Представьтесь системе

статья | обсуждение | править | история

Все активные участники проектов «Викимедиа» приглашаются для участия в голосовании по выбору членов совета поверенных фонда «Викимедиа».

OpenStreetMap

Материал из Википедии — свободной энциклопедии

OpenStreetMap, «открытые уличные карты» (ОУК) — это свободный проект по совместному развитию общедоступных карт и схем городов, улиц, дорог с помощью ручного или автоматического ввода данных, а также получения данных с портативных GPS-приемников. Проект основан в Великобритании в июле 2004 года Стивом Костом (Steve Coast). В апреле 2006 ОУК начал регистрацию в качестве фонда. «Фонд OpenStreetMap» — международная некоммерческая организация, созданная для поддержки развития и распространения геопространственных данных, а также предоставления возможности использования геопространственных данных кому угодно». [1]

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- 2 Формат данных
- 3 Инструменты для просмотра
- 4 Инструменты для редактирования
- 5 Исходные данные
- 6 Ссылки
- 7 См. также
- 8 Примечания

Проект ОУК в Санкт-Петербурге

Возможности

Интерфейс проекта охватывает весь мир, но, в настоящий момент, главные усилия сконцентрированы во Франции, Скандинавии, Остров Мэн и Великобритании. Охват Соединенных Штатов будет достигнут при помощи данных проекта TIGER, которые пользователи будут в состоянии улучшить.

Железные дороги, реки и другие объекты в настоящее время не отличаются от [додор](#), однако в настоящее время идет работа по разделению объектов по типам для обеспечения возможности выбора отображения тех или иных классов.

Карты двухмерные, без отображения высот над уровнем моря, изолиний, символов мостов.

Формат данных

[править]

Done





OSM Local - the emergence of Mapping Parties

- Q: How can you have fun mapping?
- A: Have a mapping party.



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- Started with the Isle of Wight in May 2006
- Since then there have been mapping parties in Manchester, Brighton, Bath, Isle of Wight.....



OSM Local - the emergence of Mapping Parties

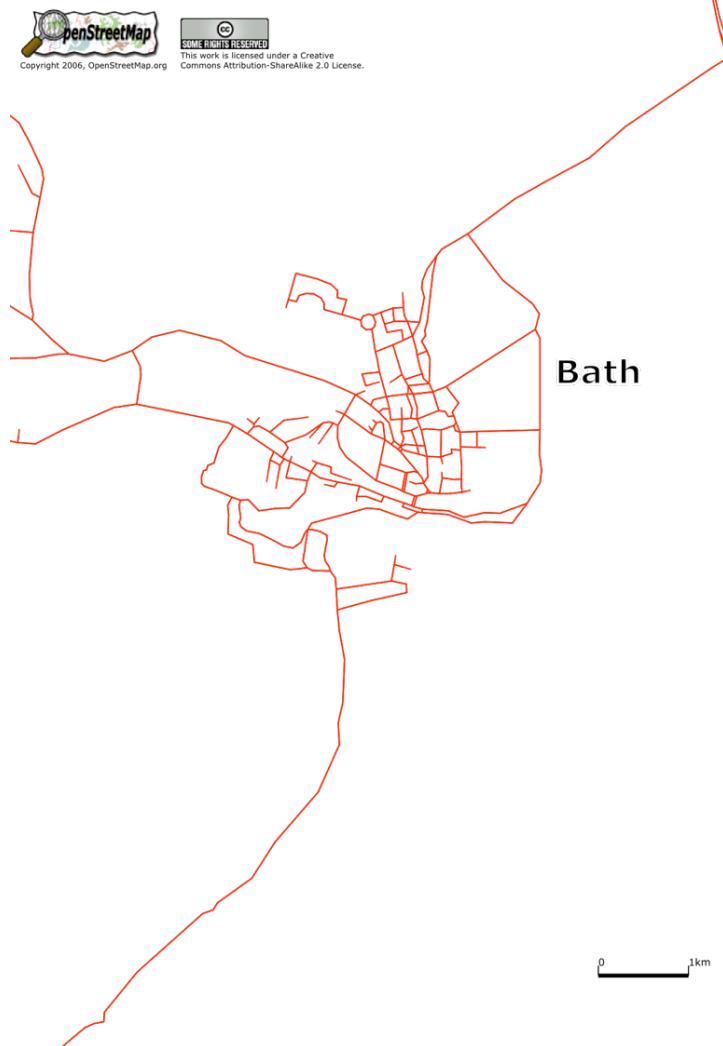
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Event Calendar		
IRC	Sept. 12	Mapping Techniques, Tips and Tricks
	Sept. 12-15	FOSS4G, Lausanne, Switzerland
	Sept. 13	HertsLUG meeting, Stevenage, England
MAP	Sept. 15	East Cotswolds Pub Meet, Cheltenham, England
	Sept. 18-21	User:Steve speaking at EuroOSCON ↗
MAP	Sept. 23-24	Mapping weekend, New Forest, England
MAP	Sept. 29-Oct. 1	Mapping weekend, Yäxjö, Sweden
IRC	Oct. 10	Mapping Techniques, Tips and Tricks
MAP	Oct. 13-15	Mapping weekend, Västerås, Sweden
MAP	Oct. 14-15	Mapping weekend, Rutland, England
MAP	Oct. 28-29	Mapping weekend, Surrey Hills, England
MAP	Nov. (?)	Mapping weekend, New Forest, England



OSM Local - Bath mapping weekend

- Free map data
- Before:

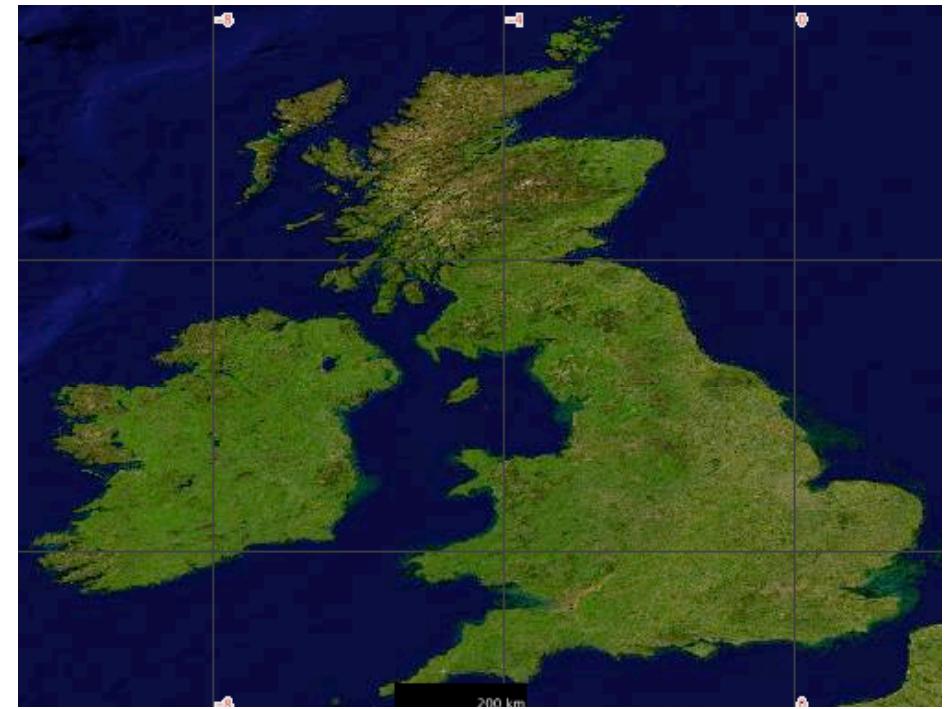




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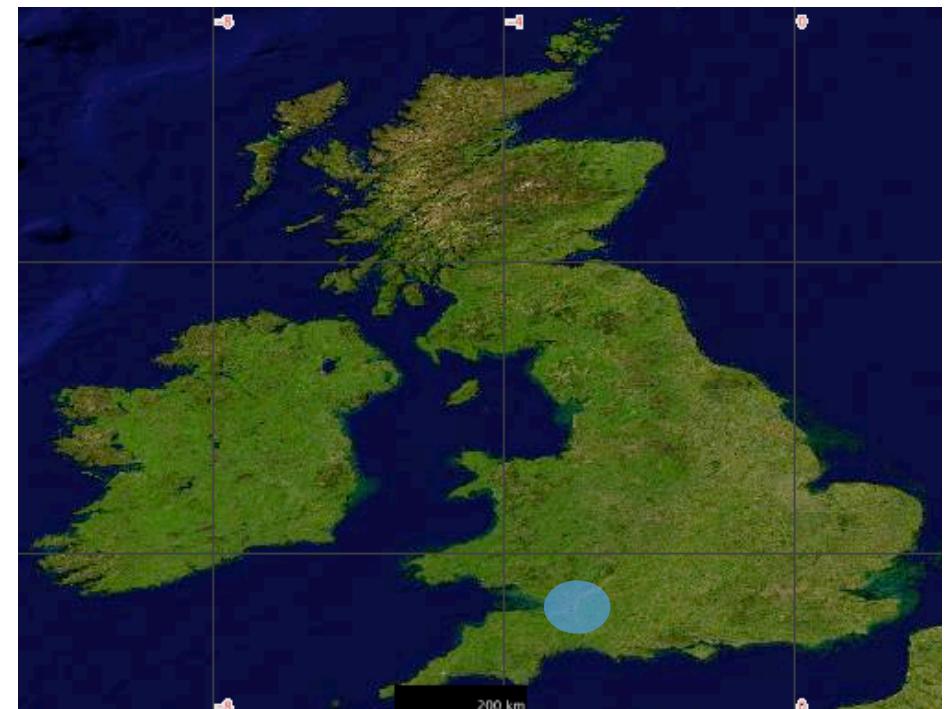
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OSM Local - Bath mapping weekend

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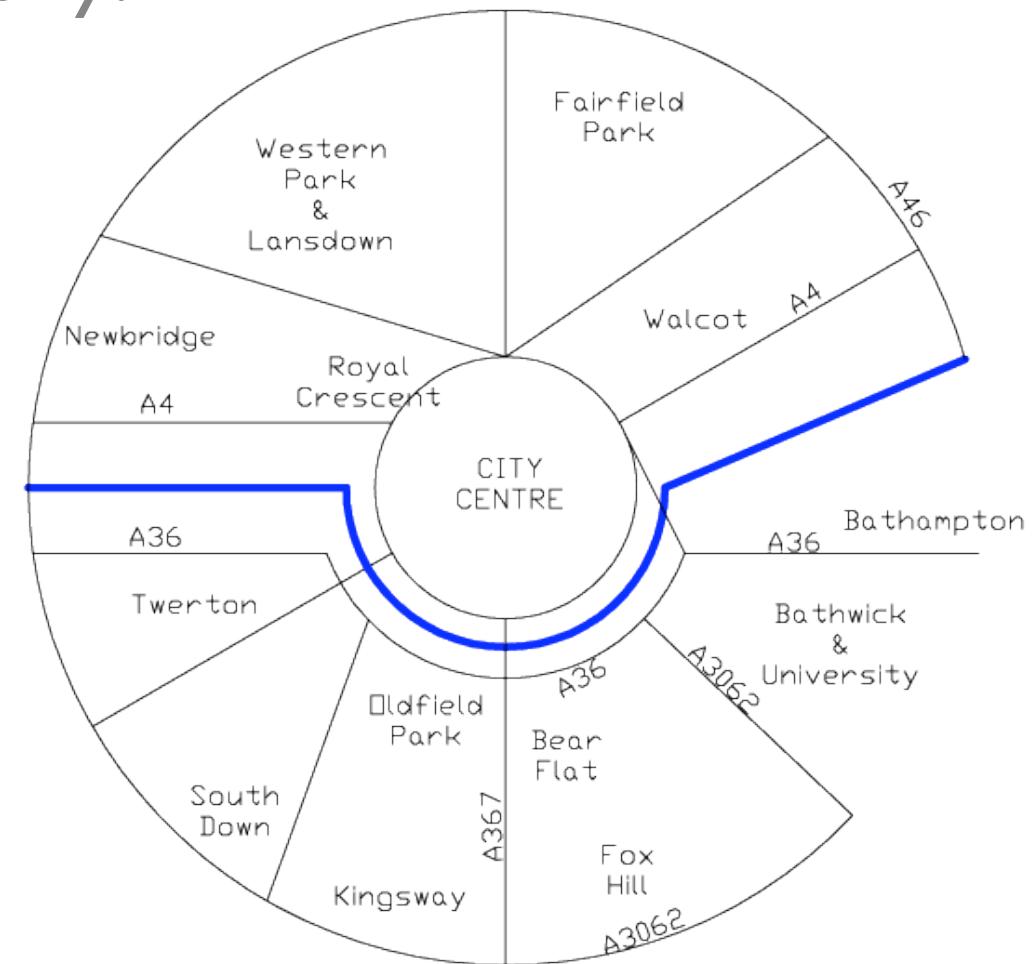
OSM Local - Bath mapping weekend

- The anatomy of a mapping party:

- Step 1: Plan

- Step 2: Arrive

- Step 3: Go Map





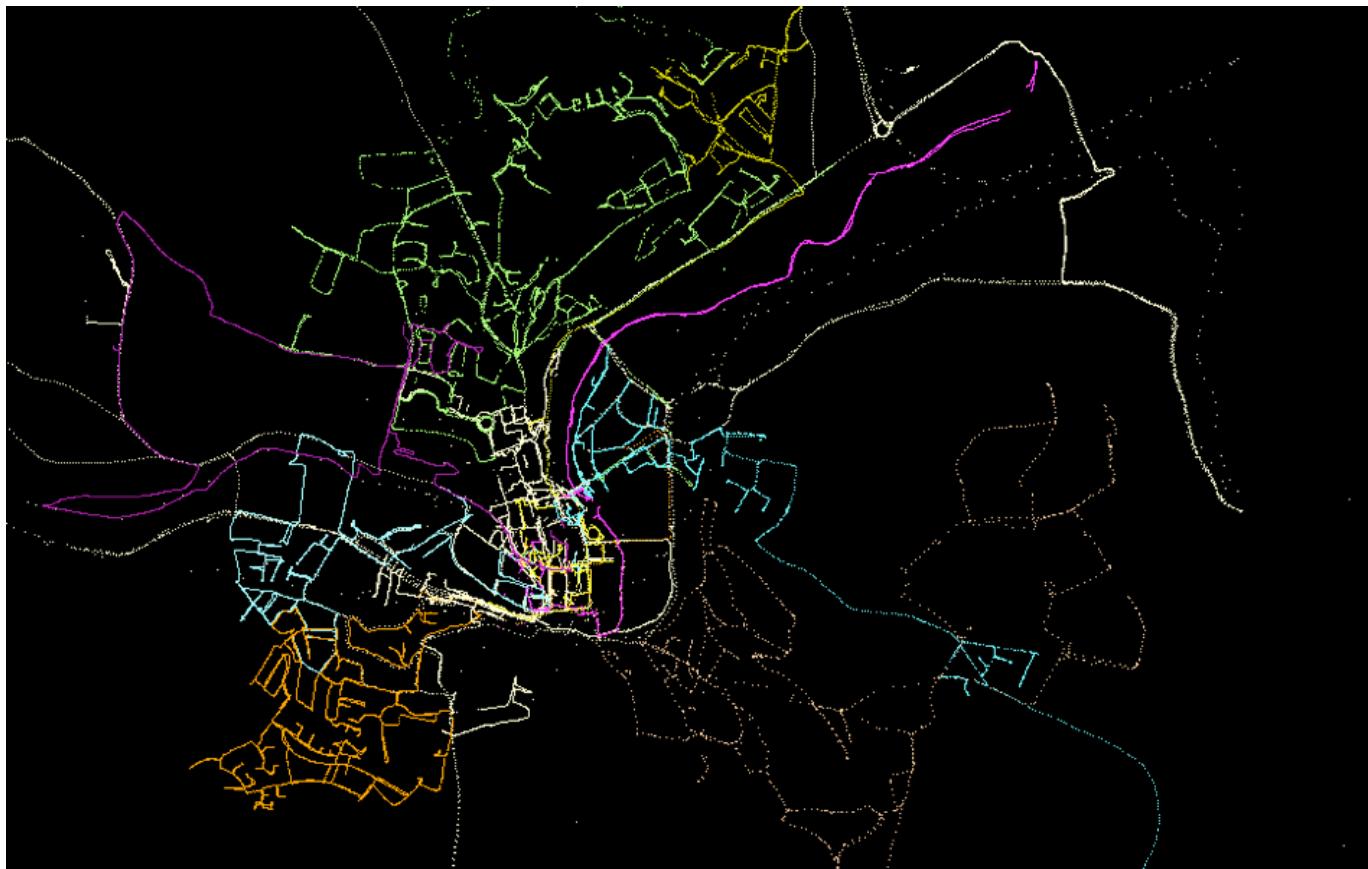
OSM Local - Bath mapping weekend

- The anatomy of a mapping party:
- Step 4: Check the days results and plan for the next day



OSM Local - Bath mapping weekend

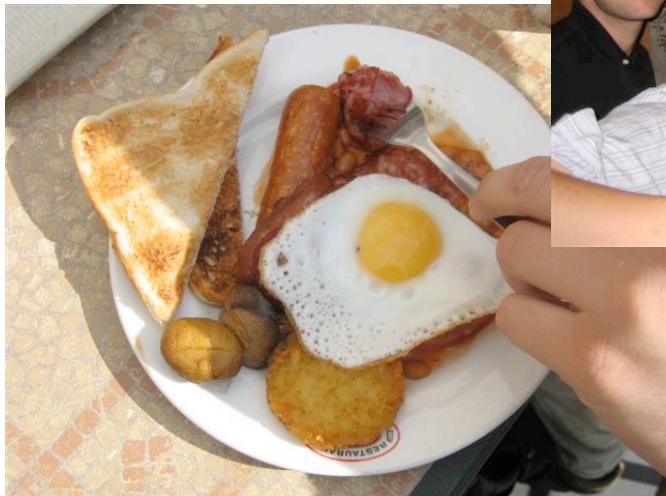
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OSM Local - Bath mapping weekend

- The anatomy of a mapping party:
- Step 5: Have fun - its a party





OSM Local - Bath mapping weekend

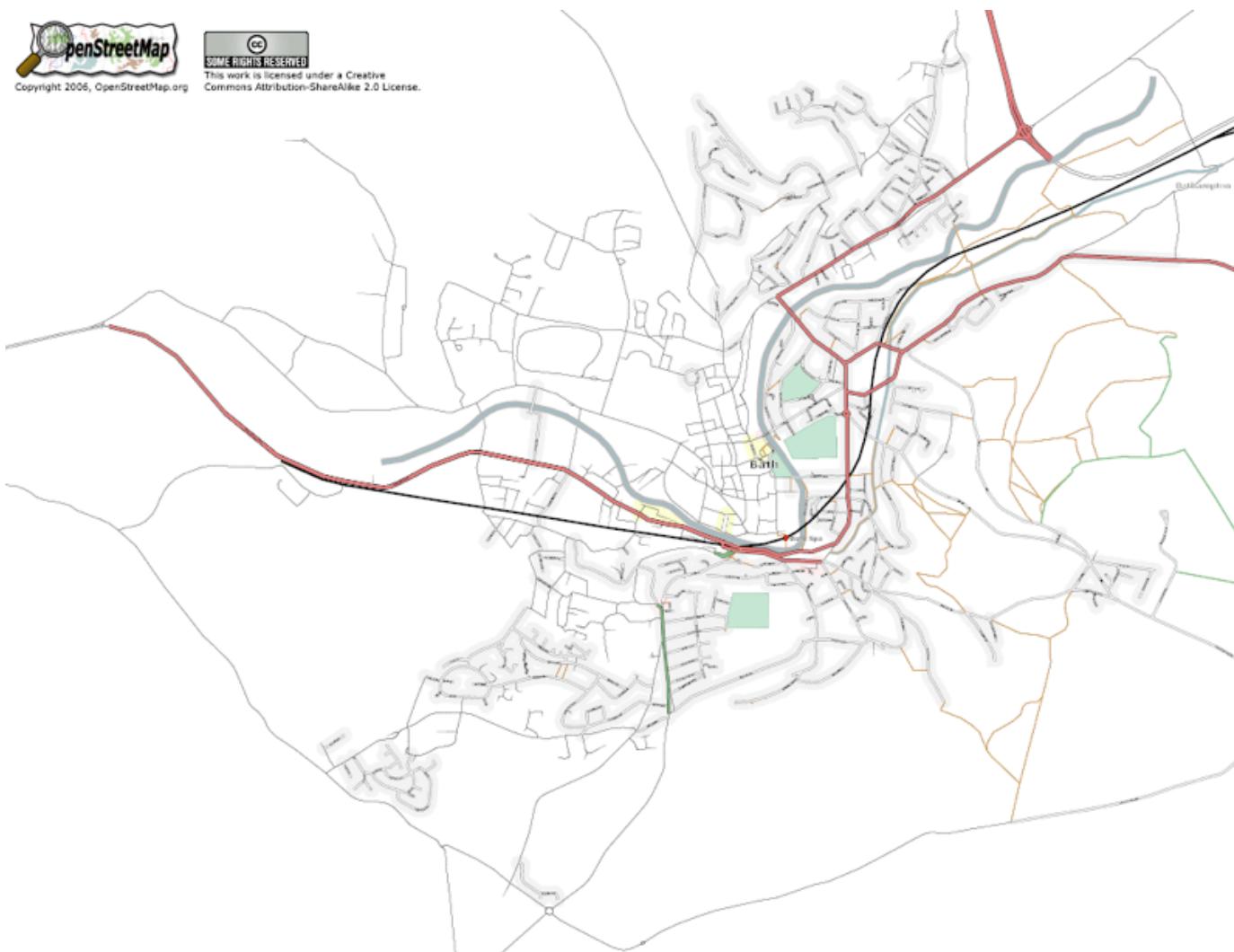
- Step 6: The result of a weekends mapping



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Want to find out more?

- We have several mailing lists, a wiki and an IRC channel.

www.openstreetmap.org

- If you like Free data, check out:

www.opengeodata.org

- Or, better yet, why not host the next mapping party?