

開放地理資料與雲端整合運用工作坊

開放資料(Open Data)、
自願性地理資訊(VGI)、
開放街圖(OSM)

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鄧東波

大綱

- 開放資料(Open Data)
 - 開放地理資料(Open Geo-Data)
 - 開放資料的5個等級
- 自願性地理資訊(VGI)
 - Web 2.0
 - 使用者生產內容(User-Generated Content)
 - 線上製圖平台和GPS
- 開放街圖(OSM)
 - OSM 基本觀念
 - OSM 製圖的步驟
 - OSM 地圖編輯工具
 - 基於OSM的地圖服務
 - 實作：自己動手畫

開放資料(Open Data)



開放地理資料 (Open Geo-Data)

- 是指「沒有技術和法律上障礙的地理資料」，也就是說這樣的地理資料
- 使用開放源碼(open source)和開放標準(open standards)來交換和存取資料，不被任何特定資料格式或技術方法所限制
- 使用開放的授權方式釋出，使地理資料交換和存取不因法律或智慧財產權(Intelligent property right)限制，而使資料可無償地被自由的散佈・再製和修改

公部門地理資料

- 多數國家的地圖或地理資料都是政府單位製作，並受到嚴格的著作權保護，如英國皇家版權(Crown copyright)，台灣亦是如此。
- 國家單位製圖單位用納稅人的錢來製作出來的地圖和地理資料，在人民需要使用地理資料或地圖時，還得付大筆金錢，以英國為例，一個鄉鎮的地圖得花£30,000，整個國家的話得花£4,099,000
- 美國是將政府部門所生產的許多地理資料公開釋放，使得一般民眾皆可輕鬆的獲得，如TIGER

對抗不開放的地圖

- Steven Coast 希望在英國有免費且隨手可得的地理資料，於是在2004年開始開放街圖(OpenStreetMap, OSM)運動
- 主要希望每個人帶著GPS，藉由跑步、騎腳踏車、開車..任何在空間中移動的活動將航跡(traces)記錄下來，並且上傳至開放街圖的伺服器中，再透過群眾共同創建的力量，編輯地圖、檢核地圖、生產地圖，最後使得每個人都可以免費的使用這個地圖。
- Tim Barner-Lee 將OSM喻為全球的草根性再製的地圖 (grassroots remapping of the world)

開放資料的5個等級

- 一顆星：只要資料（不管是否為原始資料或任何格式）放在網路上，並且賦予開放的授權條款。
- 兩顆星：滿足前一顆星的需求，但分享原始資料，並且此資料格式可以被電腦所讀懂，譬如：excel 檔案。



- 三顆星：滿足前兩顆星的需求，但資料格式採用開放的標準，譬如：CSV 檔案。
- 四顆星：滿足前三顆星的需求，並且原始資料採用 RDF 的格式加以描述，方便後續連接資料。
- 五顆星：滿足前四顆星的需求，但原始資料與外部的資料開始連接，譬如：串接 Wikipedia 的資料，提供更多的資訊來描述資料。



- 台灣公部門地理資訊常以OGC標準，如WMS和WFS釋出，但沒有開放授權條款下，即使拿到資料仍不能有改作、再製、和散佈等行為。
- 台北市政府公開資料平台為目前政府部門實施開放資料的典範。
 - <http://data.taipei.gov.tw/>
 - 更多開放地理資料的討論可參考：
 - 榮峻德、鄧東波、徐子涵、孫志鴻，開放地理資料之探討，2012 台灣地理資訊學會年會暨學術研討會

自願性地理資訊(VGI)

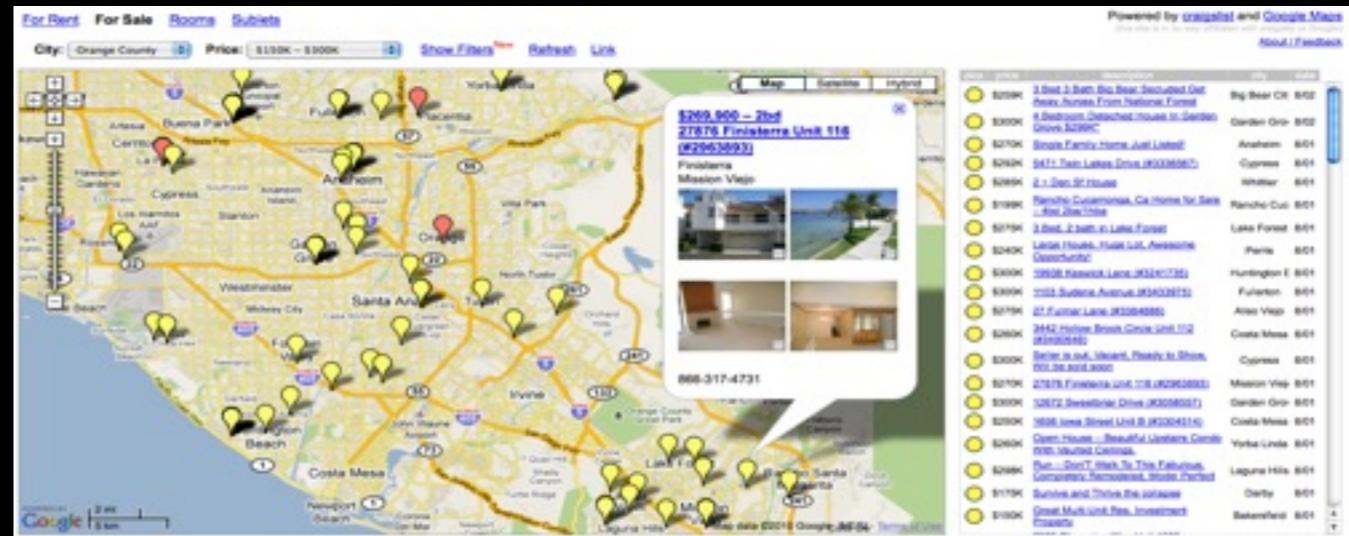
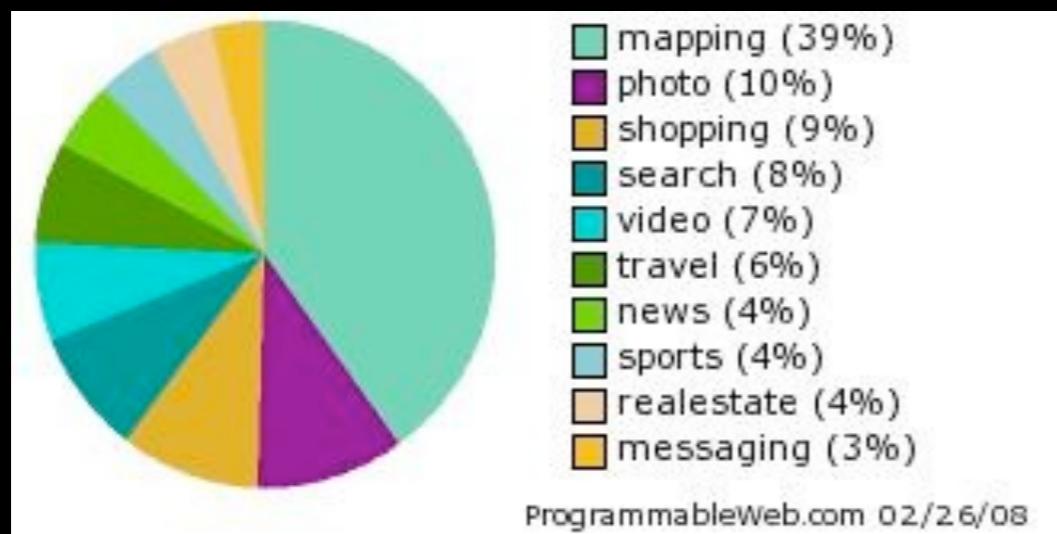


Web 2.0

- Web 2.0代表一種轉型的力量，這個力量是迫使所有公司邁向一個新商業型態，以駕御群體智慧、開放性、和網路效應的特性
- “a transformative force that's compelling companies across all industries towards a new way of doing business characterized by harnessing **collective intelligence, openness, and network effects**” ~ Tim O'Reilly
- <http://oreilly.com/web2/archive/what-is-web-20.html>

Web 2.0

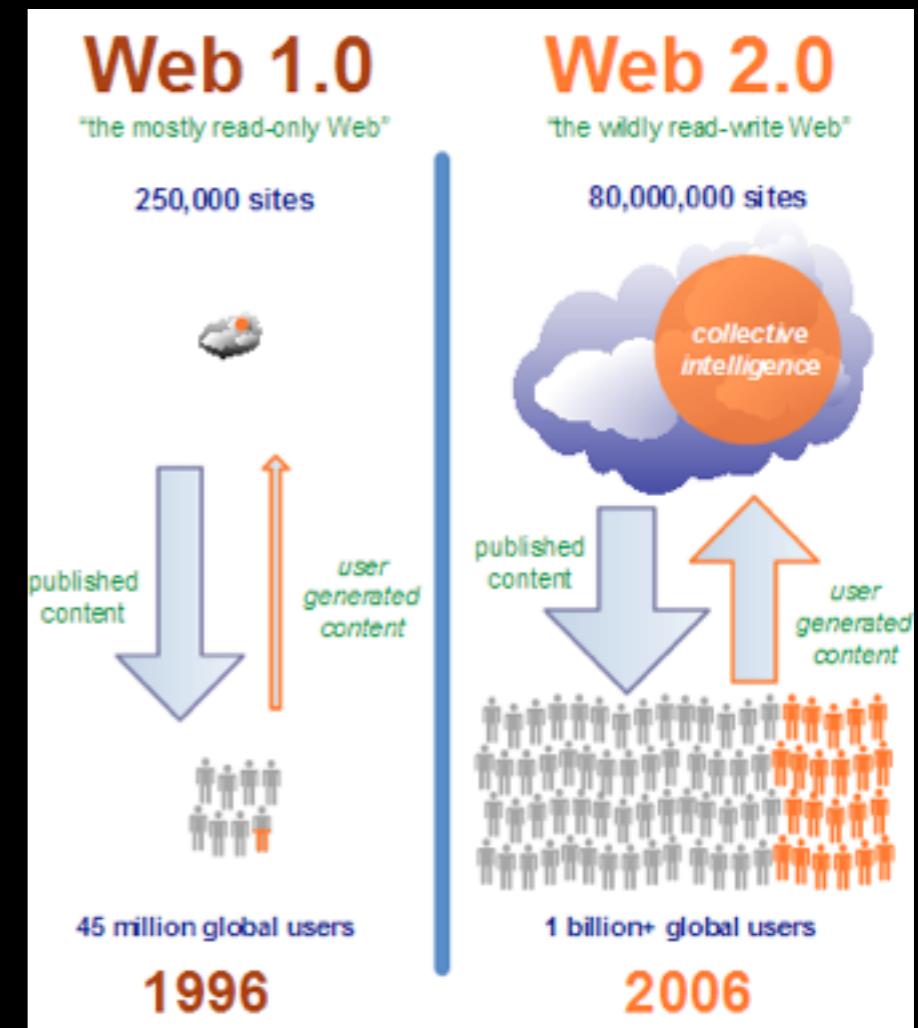
- 一項網路技術的革新，使得網路使用者不僅僅是資訊消費者，更是資訊提供者
 - 一項網路內容混搭(mashup)的技術
 - 形成集體智慧(collective intelligence)的平台



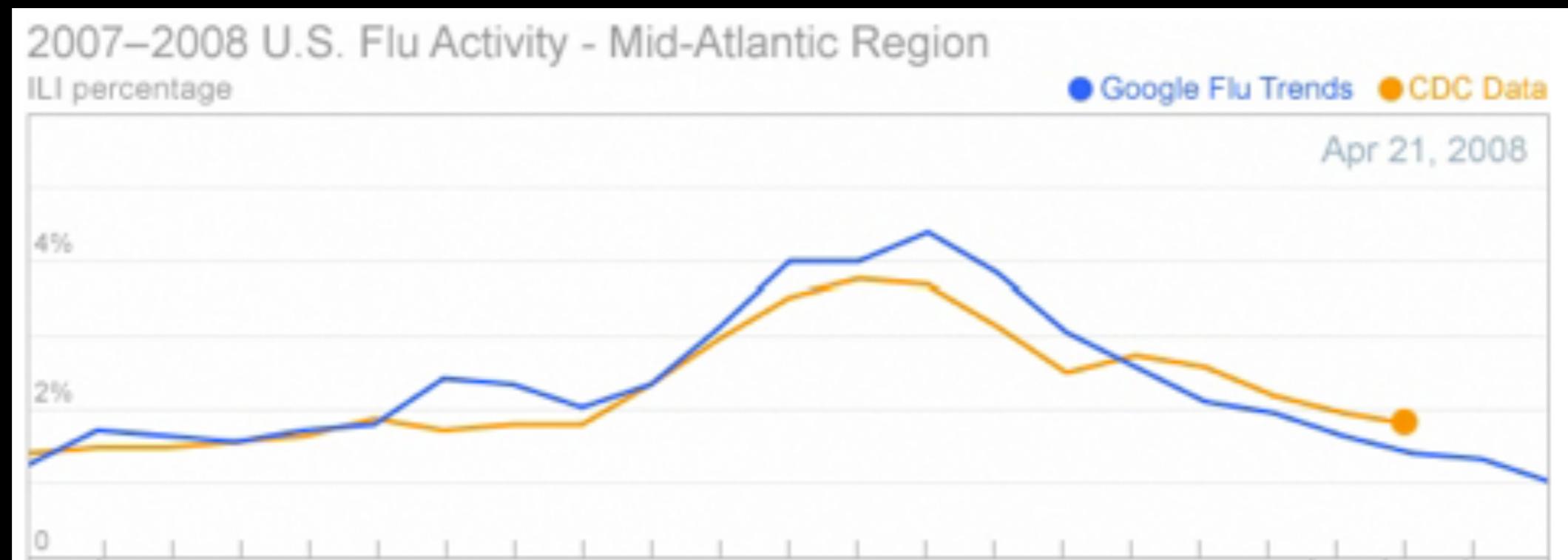
<http://www.housingmaps.com/>

使用者生產內容 (User-Generated Content)

- 網路內容(content of Web)不再是只由少數人提供和維護，而是集合普羅大眾的力量來構成，這不同以往的革新是Web 2.0的一個重要特徵
- 這樣的資料內容亦被稱為「使用者生產內容」(User-Generated Content)



集體智慧: Google 流感趨勢



線上製圖

- 線上製圖是指地圖製作、設計、和編修地圖的操作在網路上執行
- 地圖不再是只有權威單位才可生產
- 網路上公開的地圖和地理資訊愈來愈多
- 逐漸邁向合作協同式的製圖方式



GPS

- 美國於2000年解除人為干擾 (SA, Selective Availability) ，民用的GPS提高定位精度
- 現今，GPS裝置是智慧型手機的基本配備
- 人人都可以生產地理資訊，成為「人體感測器」 (Human sensor)



使用者生產地理內容

(User-Generated Geo-Content)

- 網路技術的革新，亦使得地理資料的生產變得更為容易，線上地圖或GPS，使得未受地理資訊訓練的人亦可將他們所觀察的地理資料分享於網路之中
- 這些「使用者生產地理內容」(User-Generated Geo-Content)有別於過去地理資料，需要受專業地理資訊訓練的人才能生產，並有別於政府單位或學術單位的目的

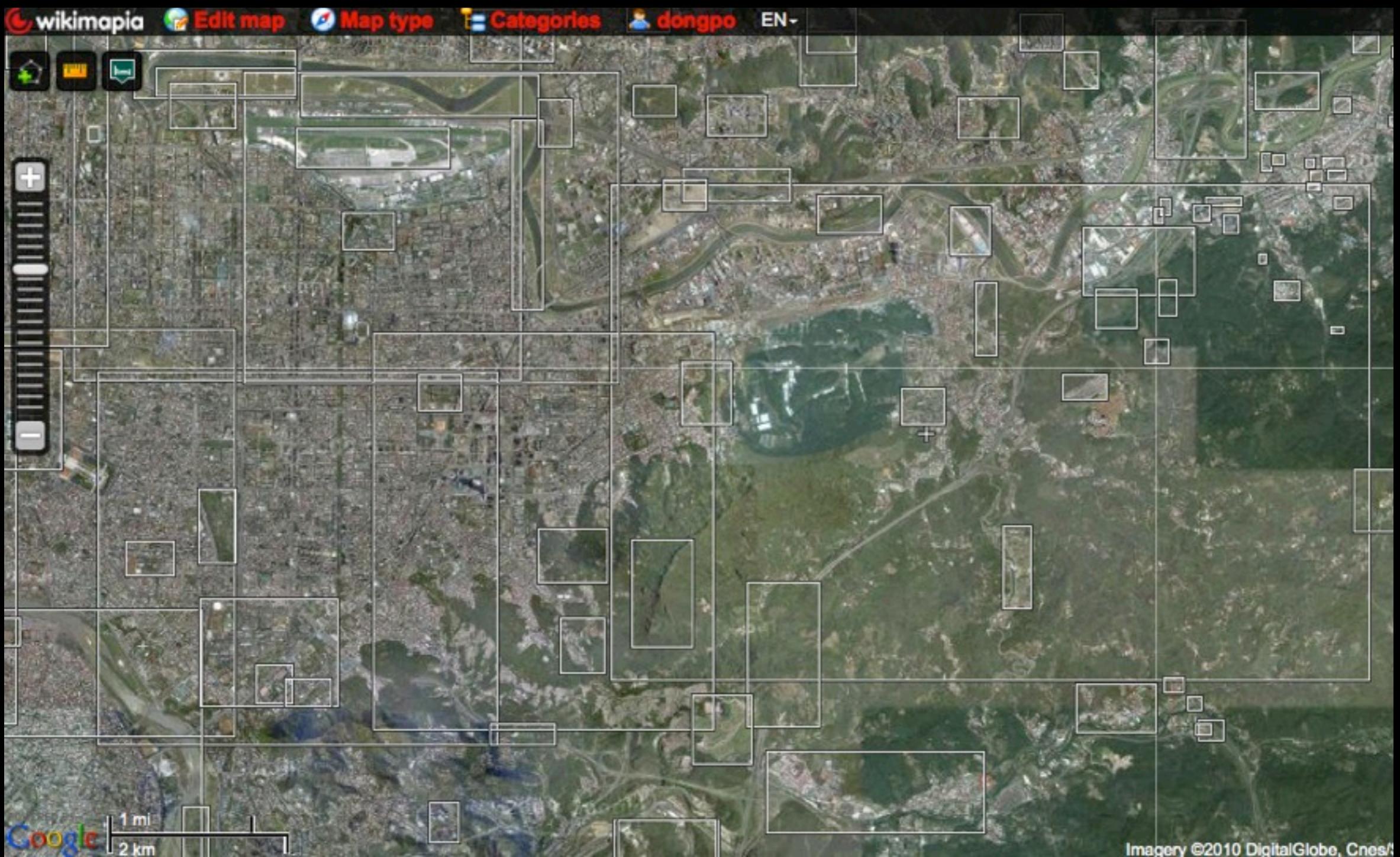
噪音地圖

iPhone + GPS + noise meter



From <http://www.scribd.com/doc/29703408/Treascovery-com>

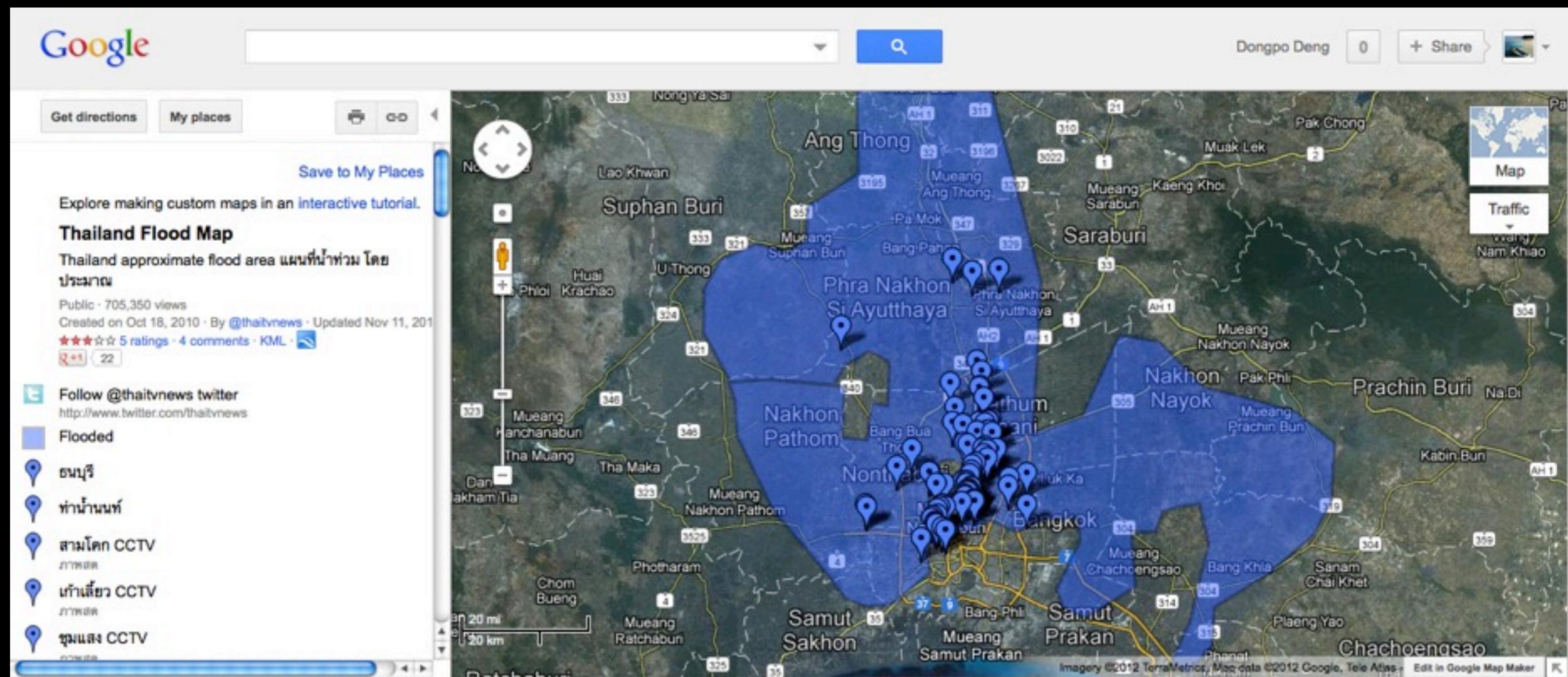
Wikimapia



<http://wikimapia.org>

2010年泰國水患

利用Google Map 平台的協同合作製圖



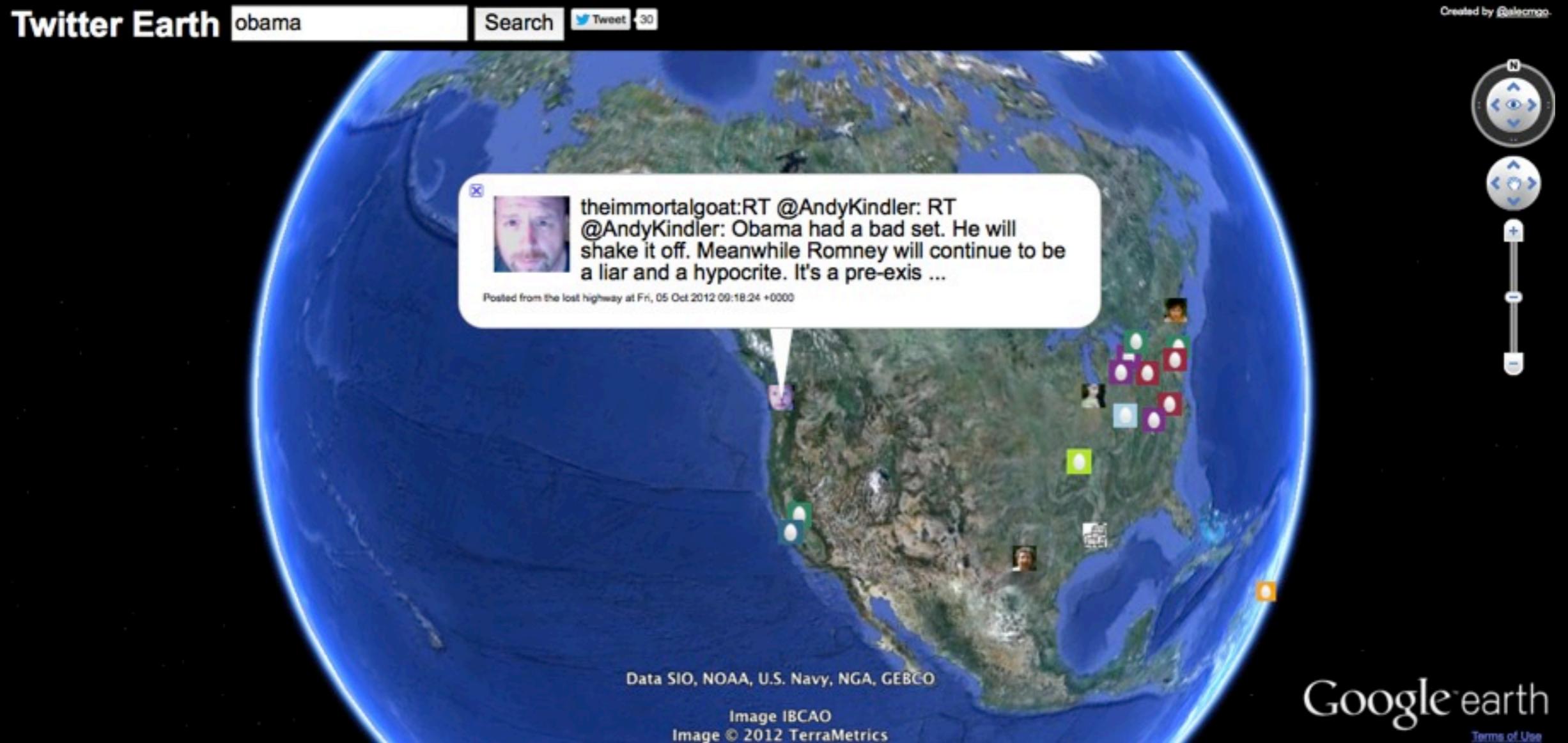
[https://maps.google.com/maps/ms?
ie=UTF8&oe=UTF8&msa=0&msid=218138482391059342984.000492e56b7863b0ebfb7](https://maps.google.com/maps/ms?ie=UTF8&oe=UTF8&msa=0&msid=218138482391059342984.000492e56b7863b0ebfb7)

Flickr 地圖

The screenshot shows the Flickr map interface. At the top, there's a navigation bar with links for Home, The Tour, Sign Up, Explore, and Upload. To the right of the navigation bar is a search bar and a 'Search' button. The main area is a world map with various location markers. A callout box on the left displays a photo of a Fairy Pitta bird with the caption 'Fairy Pitta/八色鳥 by Ali Chen'. Below the map, there's a grid of thumbnail images and a summary box stating '12 results matching "Fairy Pitta" here.' The map also features a legend for 'Link to this map' with options for Map, Hybrid, Satellite, and Find my location. A copyright notice at the bottom right says 'Powered by Leaflet — copyright info'.

<http://www.flickr.com/map/>

Twitter 地圖



<http://www.twitter-earth.com/#obama>

Facebook 地圖



自願性地理資訊分類



鄧東波(2012)，運用社群媒體於災害救援資訊製圖，地圖，21(2):1-21

開放街圖 (OpenStreetMap)

The Free Wiki World Map

OpenStreetMap is a free editable map of the whole world. It is made by people like you.

OpenStreetMap allows you to view, edit and use geographical data in a collaborative way from anywhere on Earth.

OpenStreetMap's hosting is kindly supported by the UCL VR Centre and [bytemark](#). Other supporters of the project are listed in the [wiki](#).

[Help & Wiki](#) [Copyright & License](#) [News blog](#) [Shop](#) [Map key](#)

Search Where am I? Go

examples: 'Alkmaar', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' [more examples...](#)

Permalink Shortlink

View Edit History Export GPS Traces User Diaries log in | sign up

The year edits of 2011

ito!



OpenStreetMap

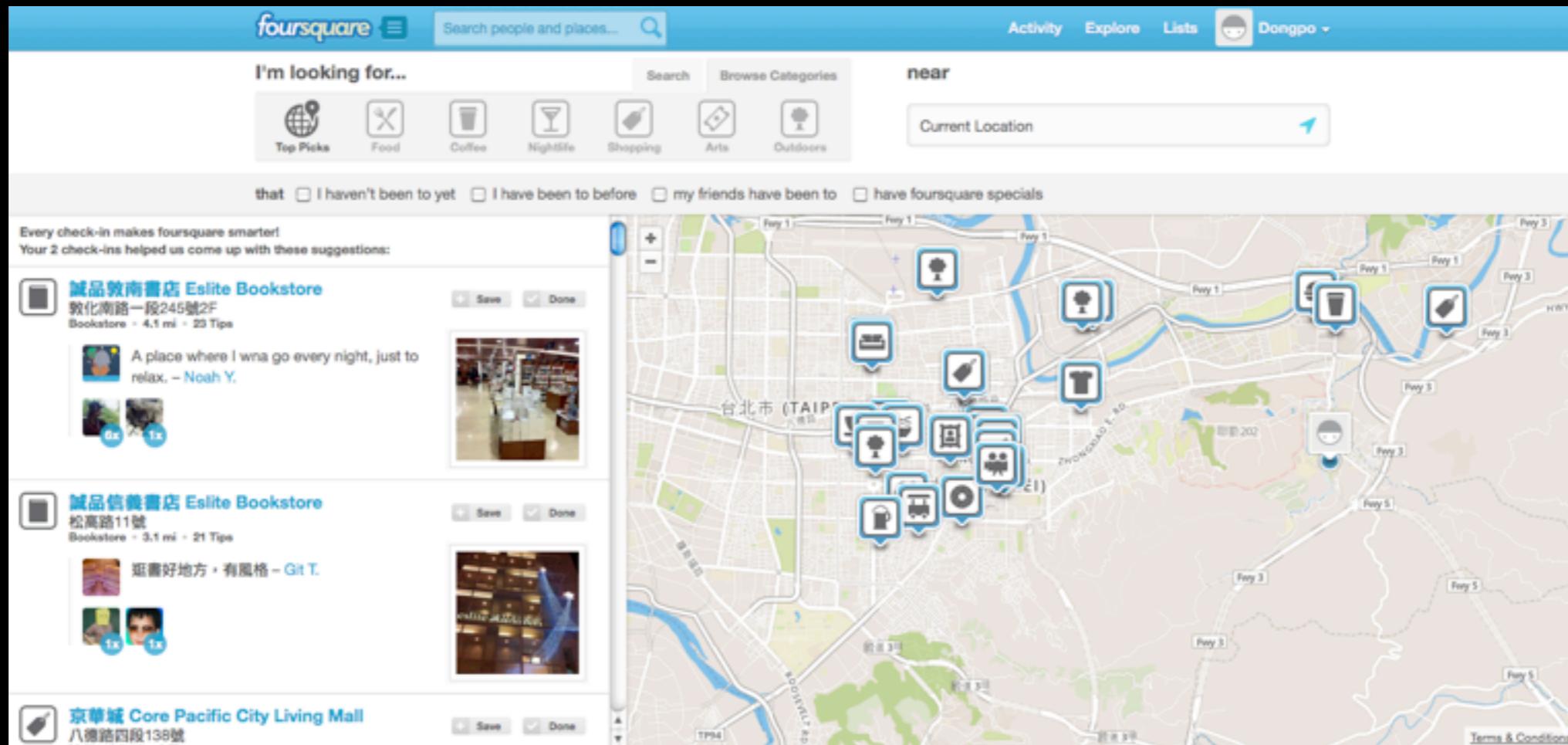
CC-by-SA www.itoworld.com

Map data www.openstreetmap.org 31 Dec 2011

J F M A M J J A S O N D

不再只是Google Map

- Microsoft 和 ESRI 分別贊助 OSM 的發展
- Foursquare 和 iPhone iOS 放棄使用 Google Map
- 海地地震救災顯示社群地圖的力量



OSM 在海地地震的貢獻

BBC NEWS Magazine

Page last updated at 17:17 GMT, Wednesday, 24 February 2010

E-mail this to a friend | Printable version

The volunteer mappers who helped Haiti



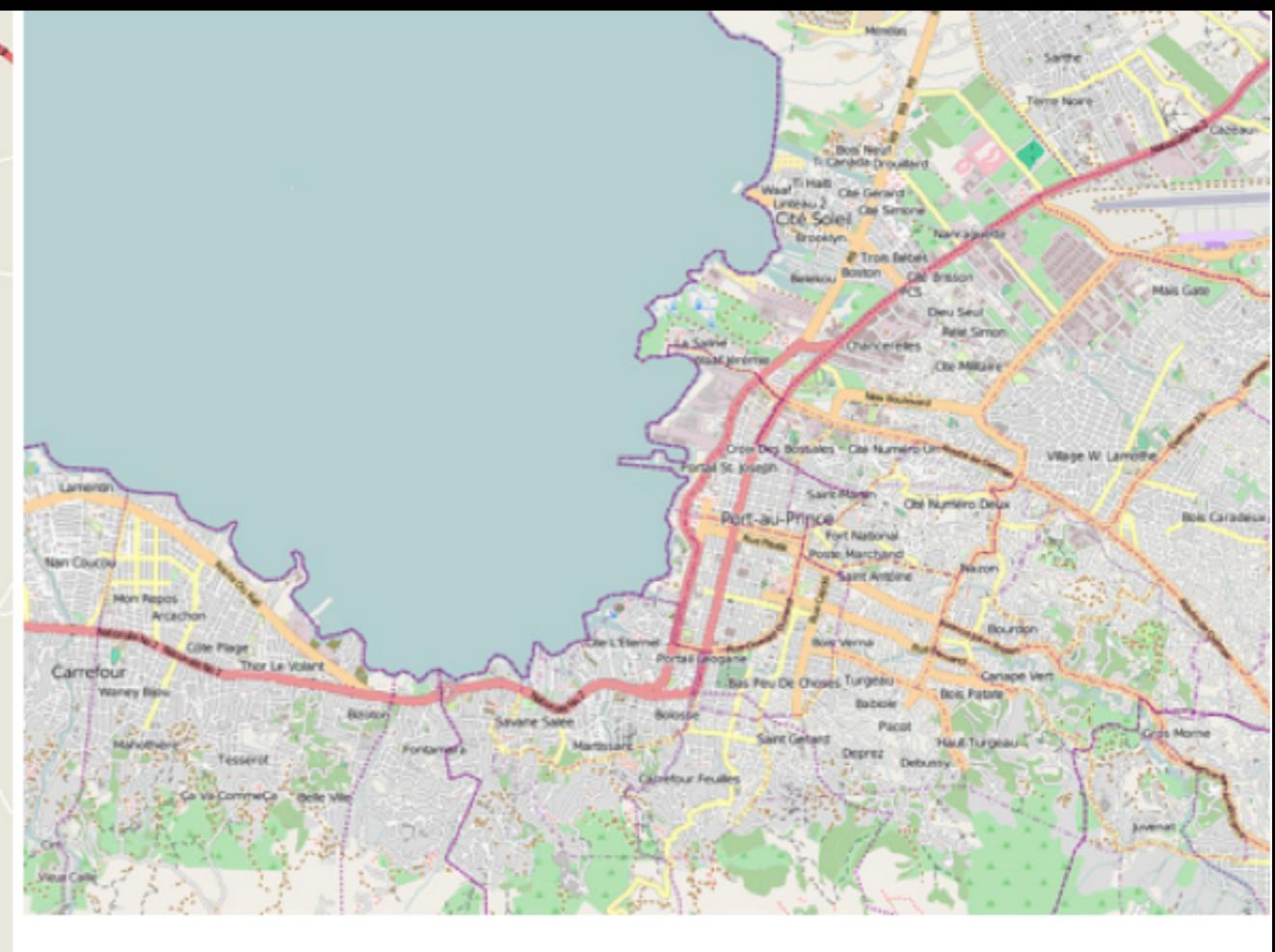
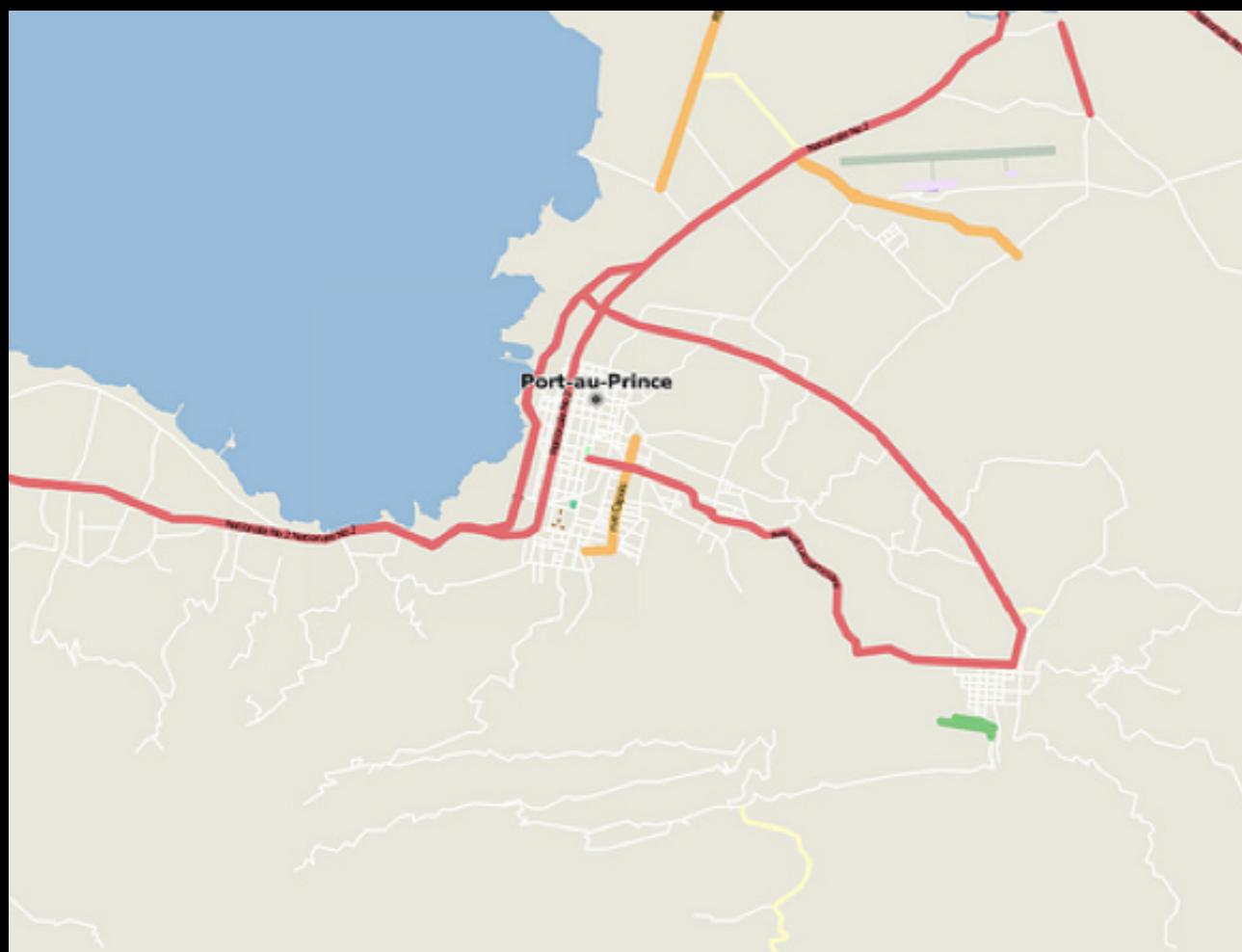
The Red Cross's Kjeld Jensen uses it on a handheld GPS. "Over just a few days, it saved me and my driver from getting lost twice, and the alternative would have been long delays. We are running fast trying to help people and your work makes it easier."

Image 6 of 9

RELATED INTERNET LINKS

http://news.bbc.co.uk/2/hi/uk_news/magazine/8517057.stm

OSM 在海地地震的貢獻

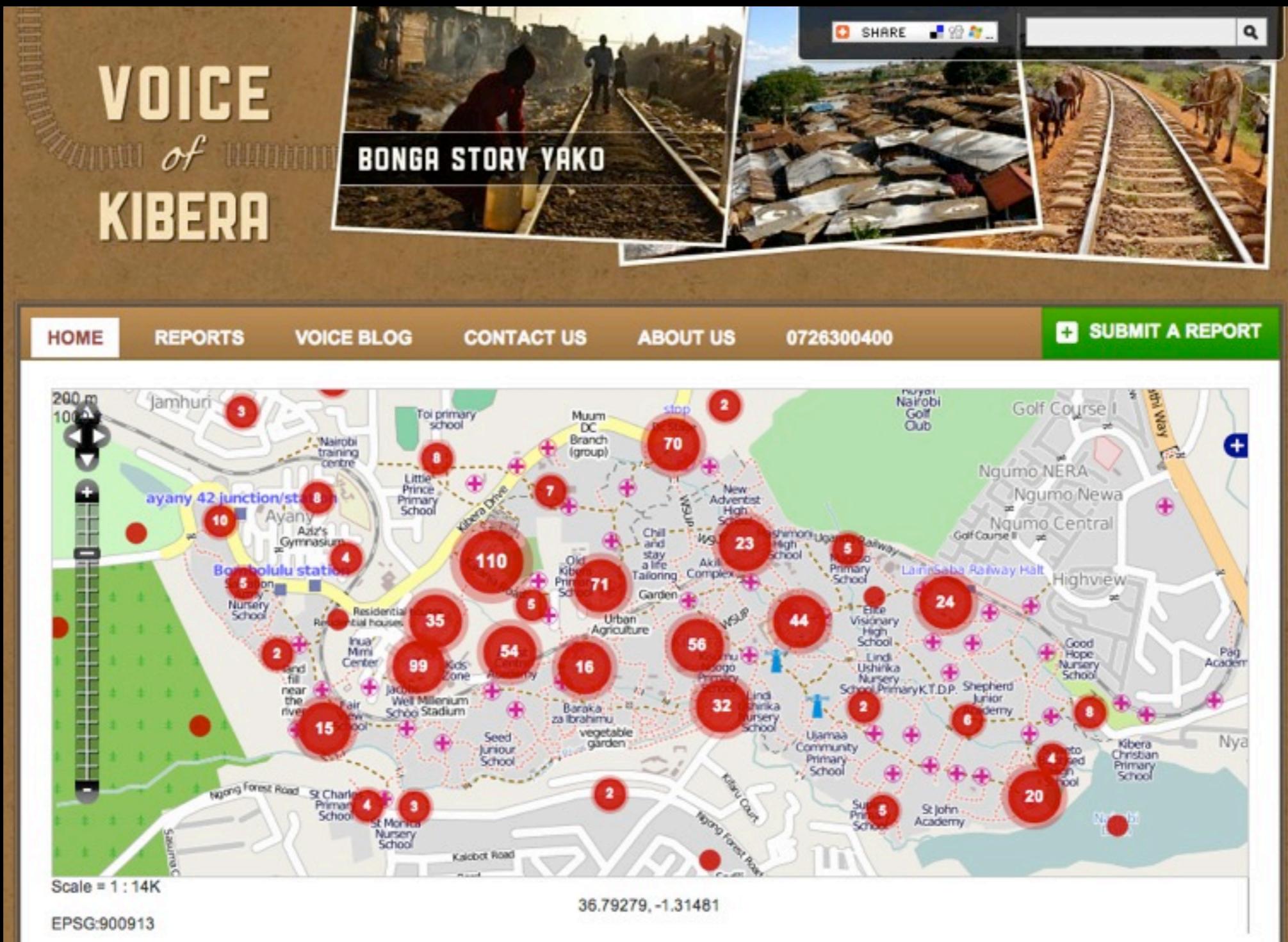


Souce: Maron 2010

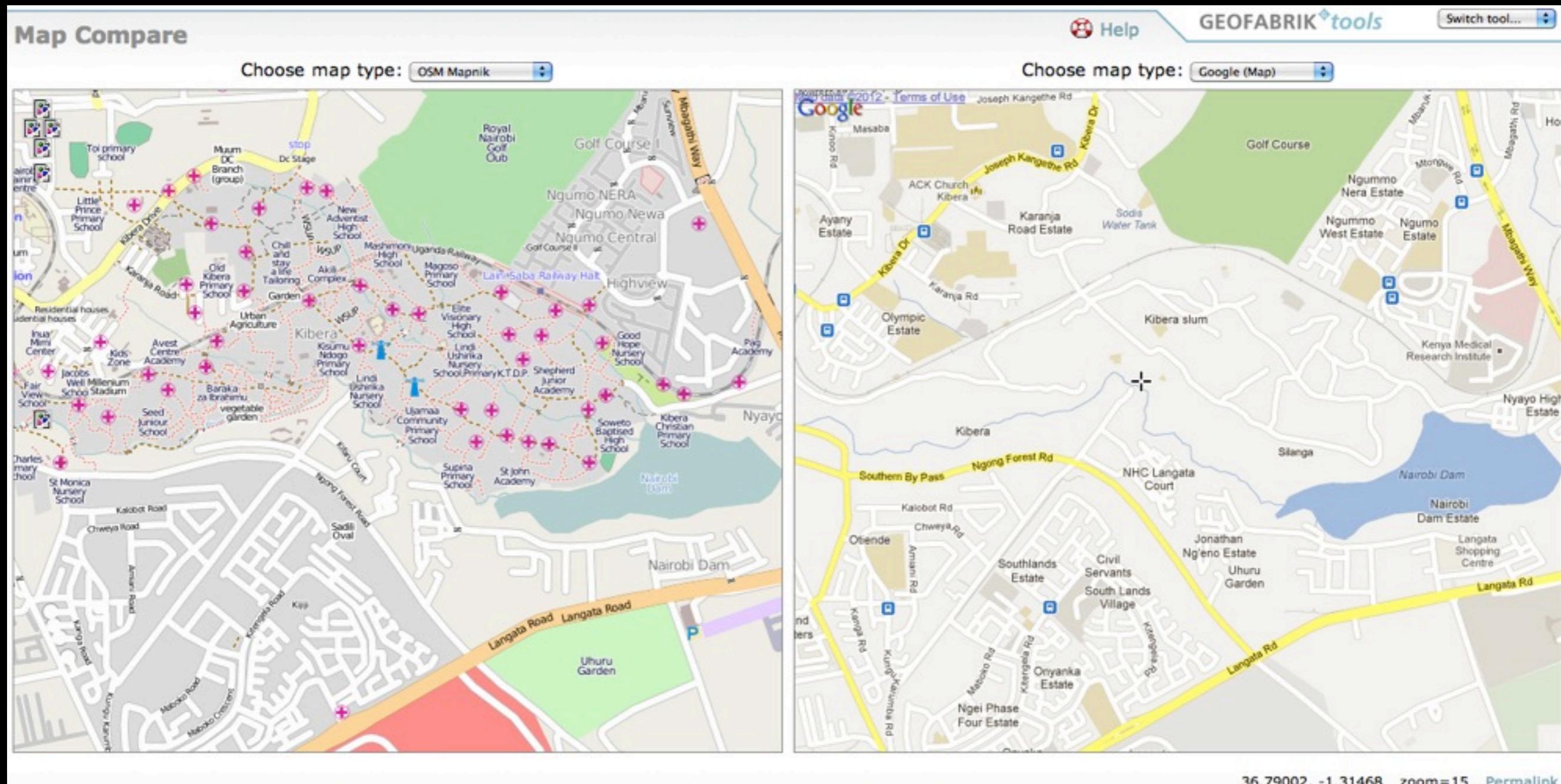
地震前

地震7日後

Mapping Changes 利用OSM來改善貧民區



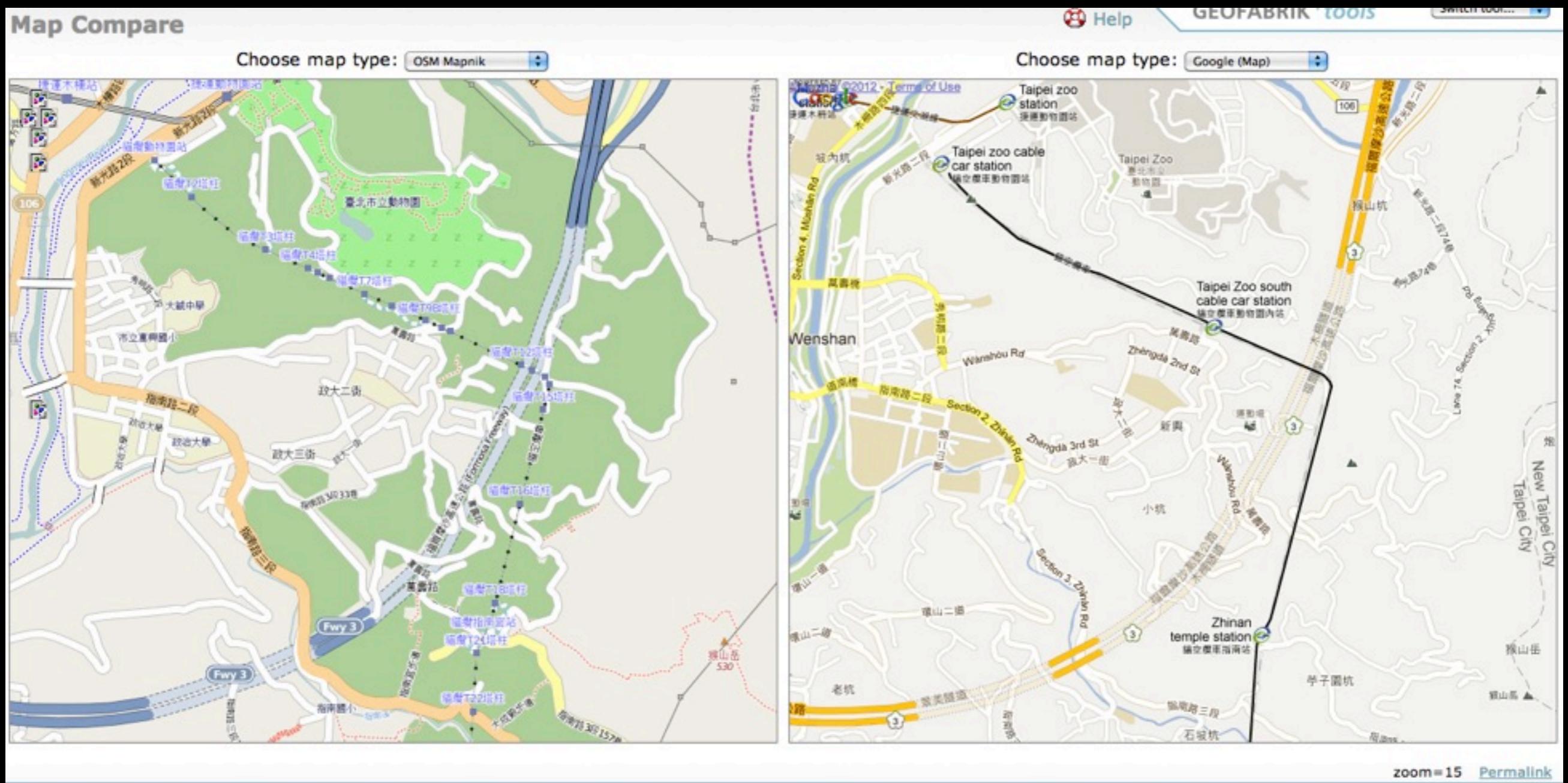
Kibera地圖的比較



- 更多有關於Kibera貧民區的改善計畫可以看
<http://mapkibera.org/>

OSM 能更符合需求

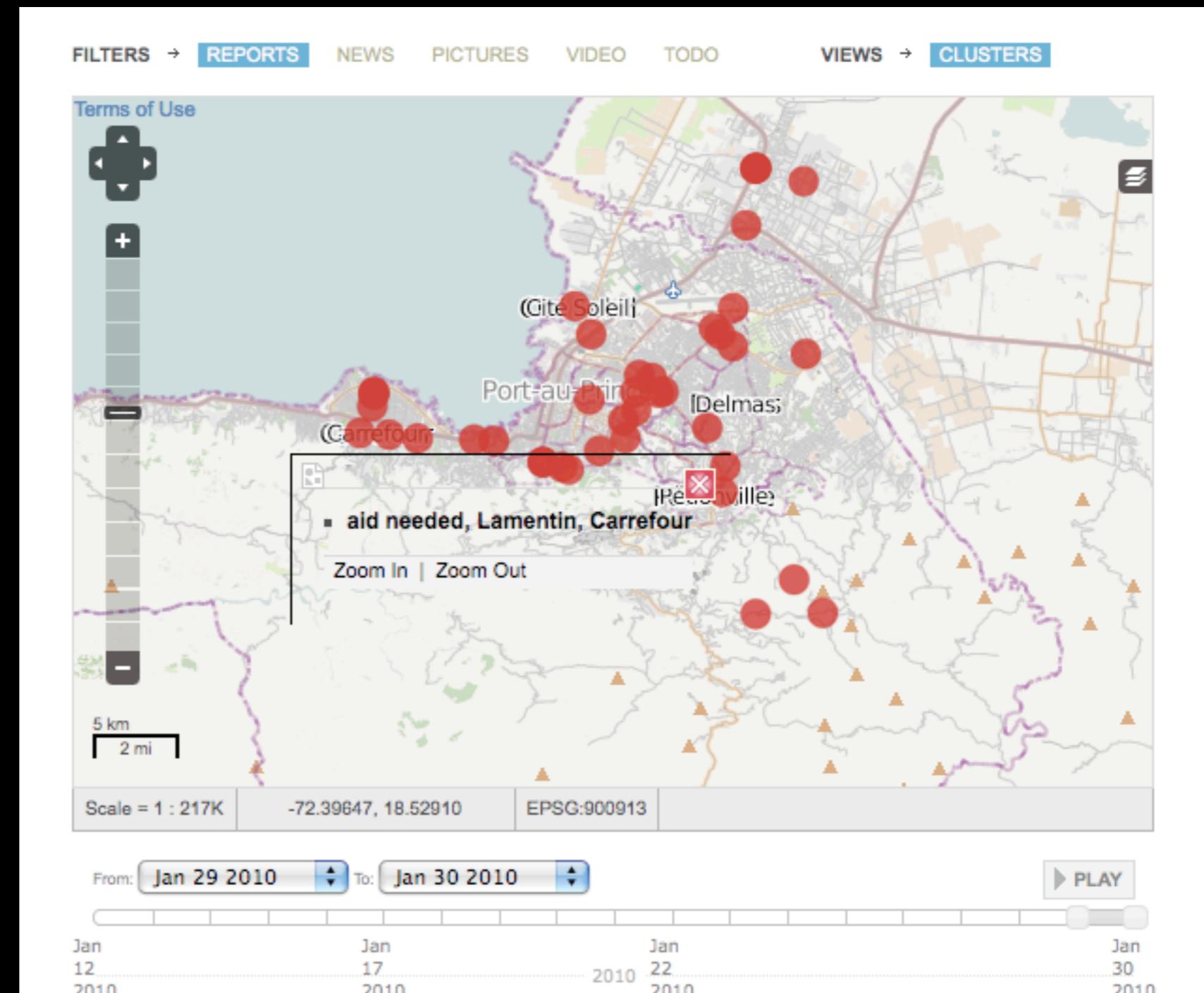
台北木柵動物園、貓空一帶



<http://tools.geofabrik.de/mc/>

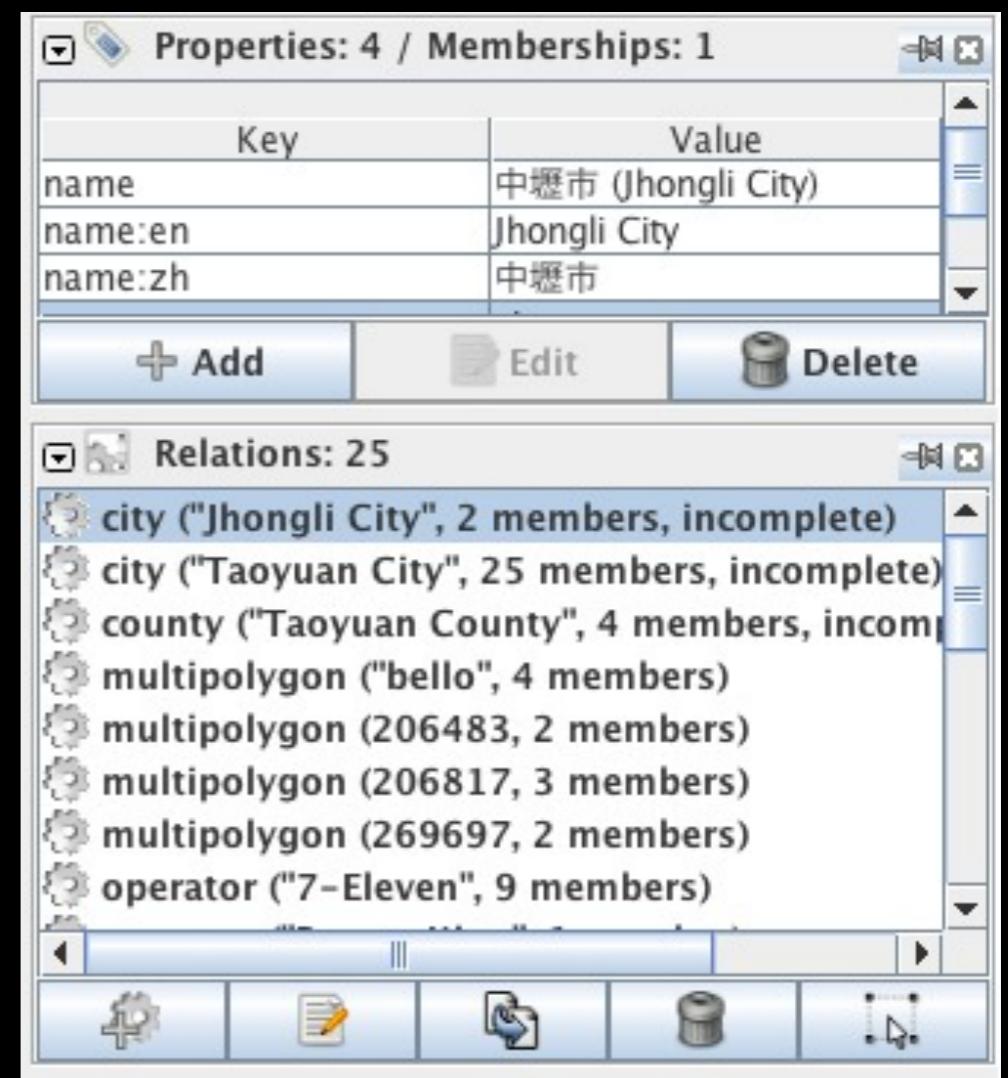
OSM 可被用來...

- 地圖瀏覽
- 地圖顯示
- 查詢
- 定址
- 資料輸出
- 線上編修



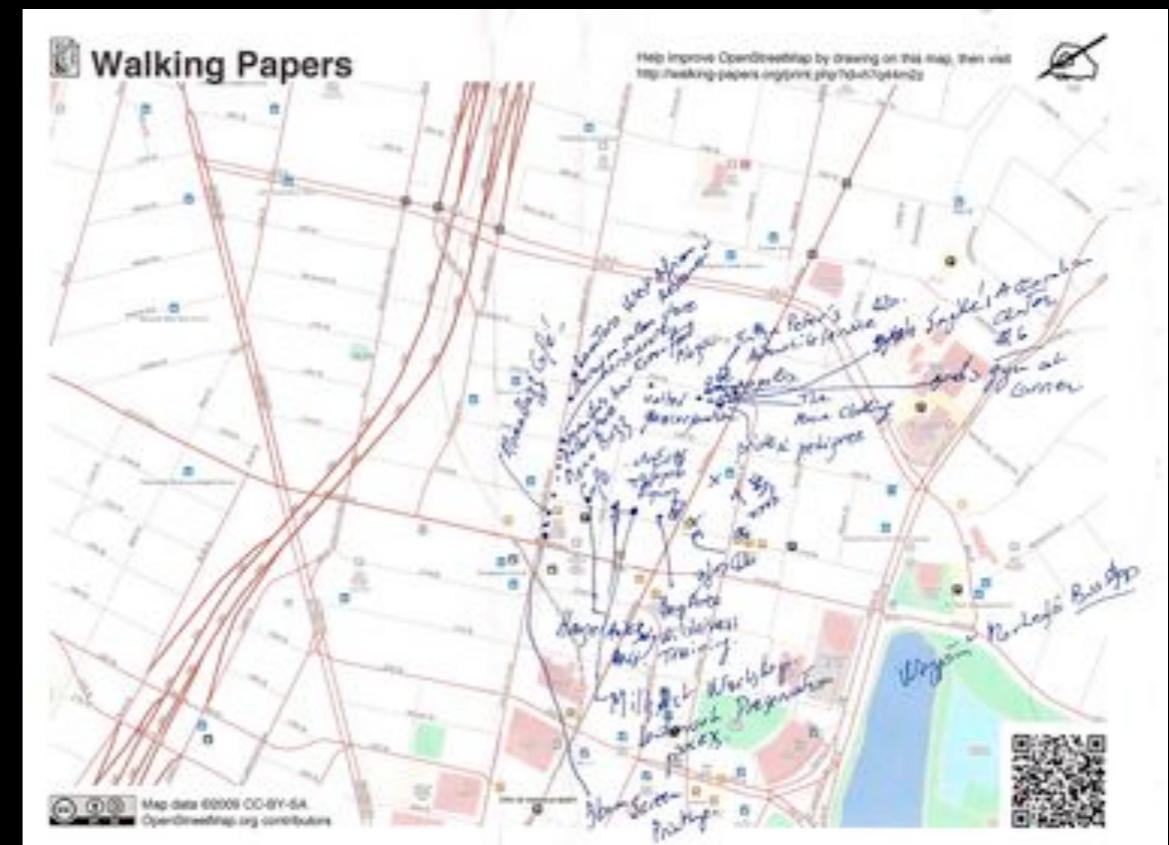
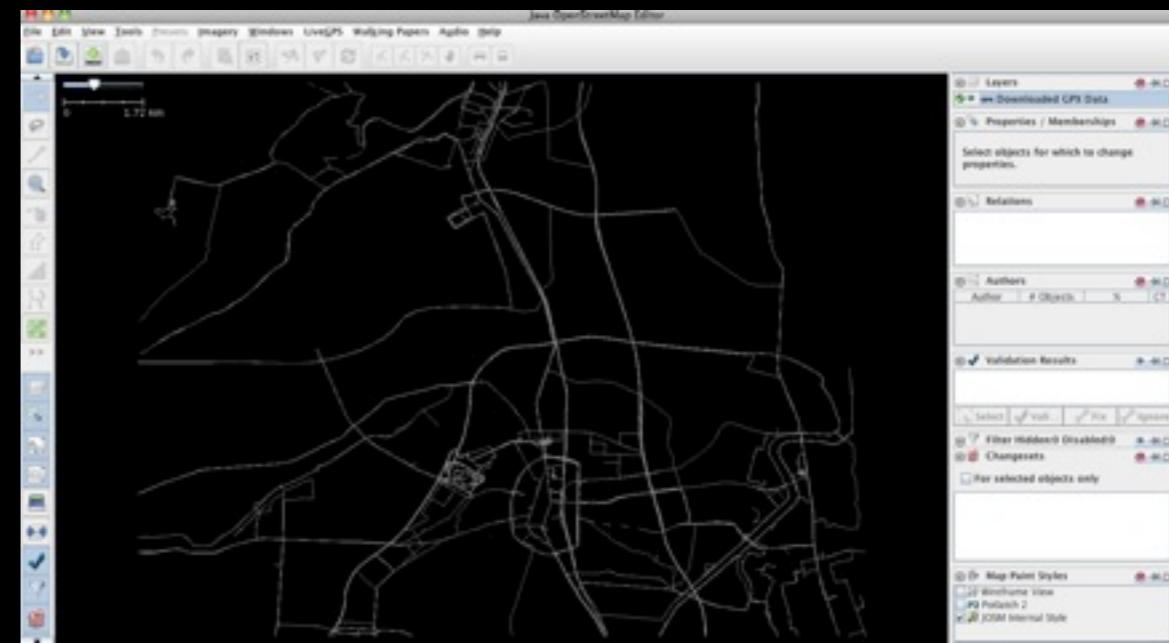
一個OSM的製圖者

- 上傳的GPS航跡和地理標籤照片
- 不只單單只有提供GPS航跡，也應參與繪圖
- 編輯地理物件的屬性
 - 名稱，如街名、大樓名
 - 型態，如道路等級
 - POI
 - 交通設施...等



收集資料

- GPS 航跡
 - 地理標籤照片
 - 紙筆
(walking-papers.org)
 - 其它



上傳GPS

View Edit History Export

 OpenStreetMap
The Free Wiki World Map

Tags

- Tramuntana
- Dresden
- Lloyd
- автомобиль
- Приморский край
- sos paris
- Brazil
- Samafas
- Swanley
- Wroclaw
- New South Wales
- Россия
- mtb
- Primorye
- Russia
- seneghe

Help

- Help Centre
- Documentation
- Copyright & License

Community

- Community Blogs
- Foundation
- User Diaries

GPS Traces

STATE OF THE

Public GPS traces

 | [Upload a trace](#) | [See your traces](#)

Previous | Showing page 1 | Next

	2012_10_05_11_11_43.gpx ... (518 points) ... 11 minutes ago more / map / edit IDENTIFIABLE walk gathering house numbers by Tallguy in Swanley
	track.gpx ... (1,342 points) ... 19 minutes ago more / map / edit PUBLIC Municipalidad. Track 05/10/2012 11:39:49 AM by Samafas in Samafas
	Exp_120812_120812_132833_265km_ed.gpx ... (7,421 points) ... 31 minutes ago more / map / edit IDENTIFIABLE from Wroclaw to Dresden by Cottaer in Wroclaw, Dresden
	Lloyd_West_subdivision.gpx ... (50 points) ... 31 minutes ago more / map / edit PUBLIC Lloyd West subdivision by BidgeeWagga in Lloyd, New South Wales
	4_settembre____10_2_Seneghe_monte_e_rientro_via_pietraia.gpx ... (9,466 points) ... 36 minutes ago more / map / edit PUBLIC percorso mtb seneghe monte sos paris by Nocch in mtb, seneghe, sos paris
	20121005_112658.gpx ... (3,335 points) ... 38 minutes ago more / map / edit IDENTIFIABLE Drive to Bairro Travessão, Dois Irmãos, RS by hpeifer in Brazil
	Exp_120810_1_19km_ed.gpx ... (247 points) ... 41 minutes ago more / map / edit IDENTIFIABLE in Wroclaw by Tram and walking by Cottaer in Wroclaw

<http://www.openstreetmap.org/traces>

雲霄飛車的GPS航跡

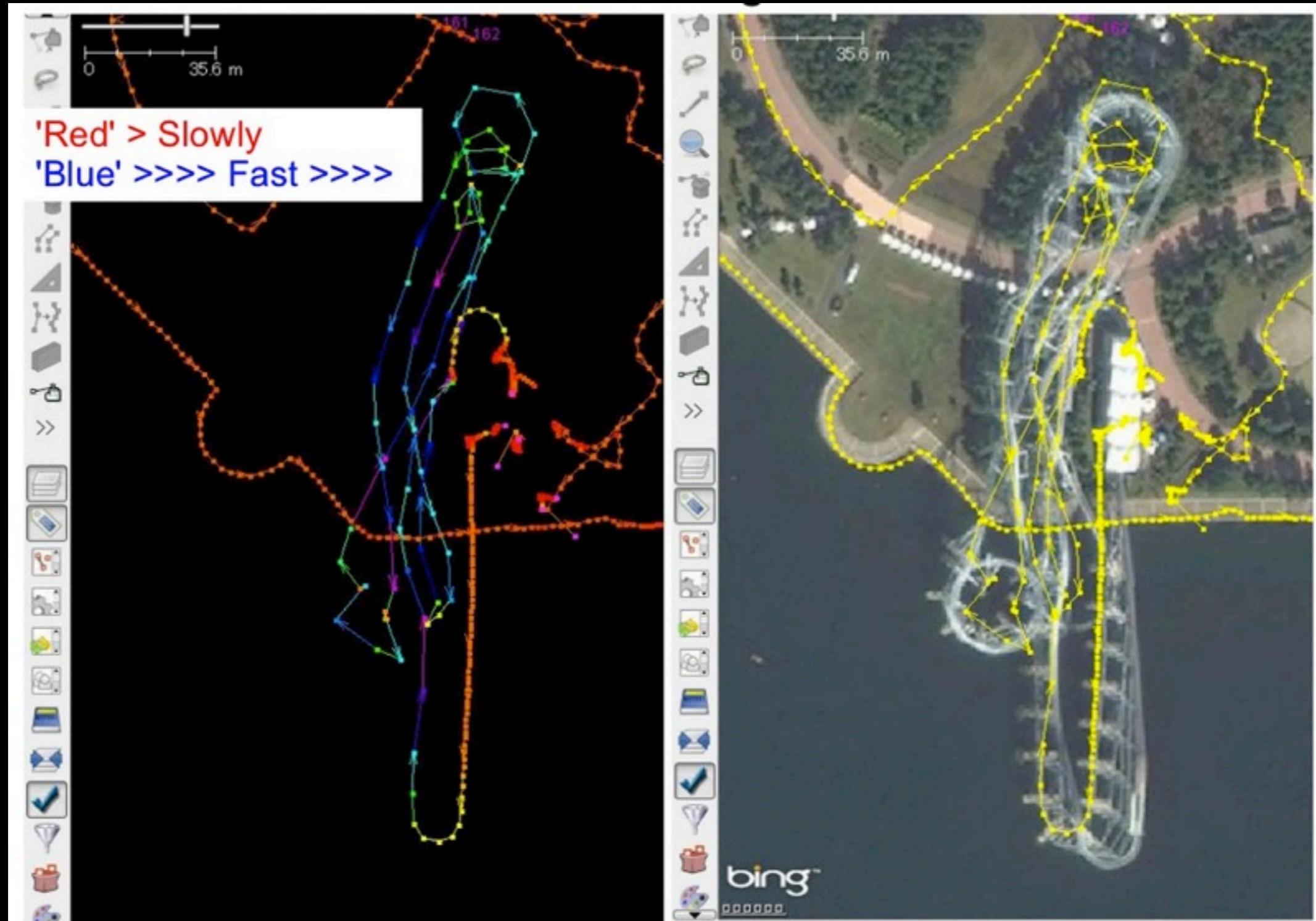


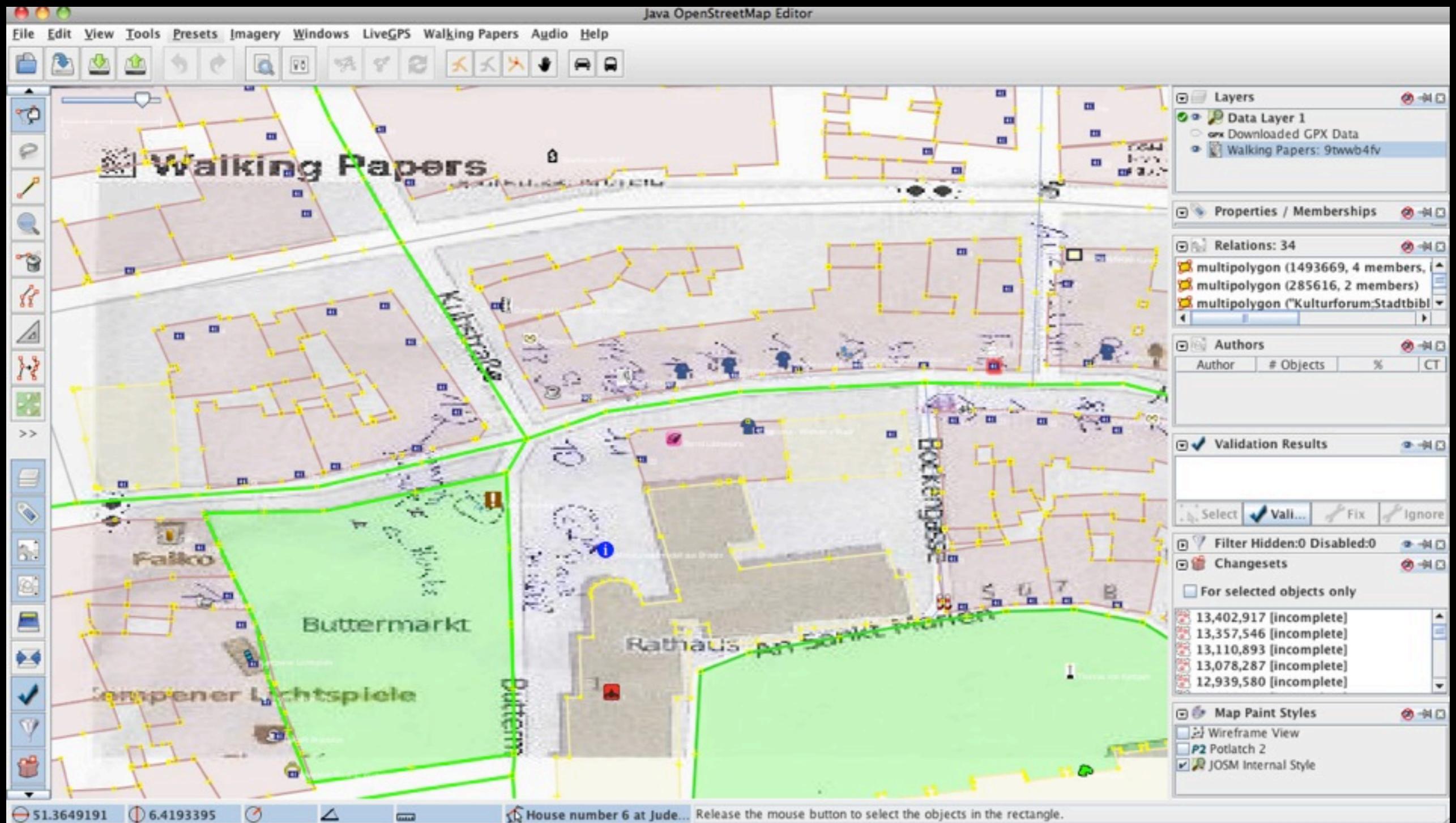
Image courtesy of Kinya Inoue, Mapping of historical places in Japan, SotM 2012

Walking Paper來收集資料



李昕迪、劉俊宏、鄧東波(2012)，自願性地理資訊之生產與管理—以開放街圖為例，
2012台灣地理資訊學會年會暨學術研討會

將掃瞄且上傳的walkingpaper 用在JSOM上做地圖編輯



地圖編輯工具

- 線上的
 - Potlatch (Popular!)
 - Mapzen
 - Amenity Editor
- 離線的
 - JSOM (Popular!)
 - Merkaartor
 - Plugins QGIS



See more info <http://wiki.openstreetmap.org/wiki/Editors>

智慧型手機中Apps

- Apple iOS
 - iPhone
- Symbian
- Nokia
- Andriod

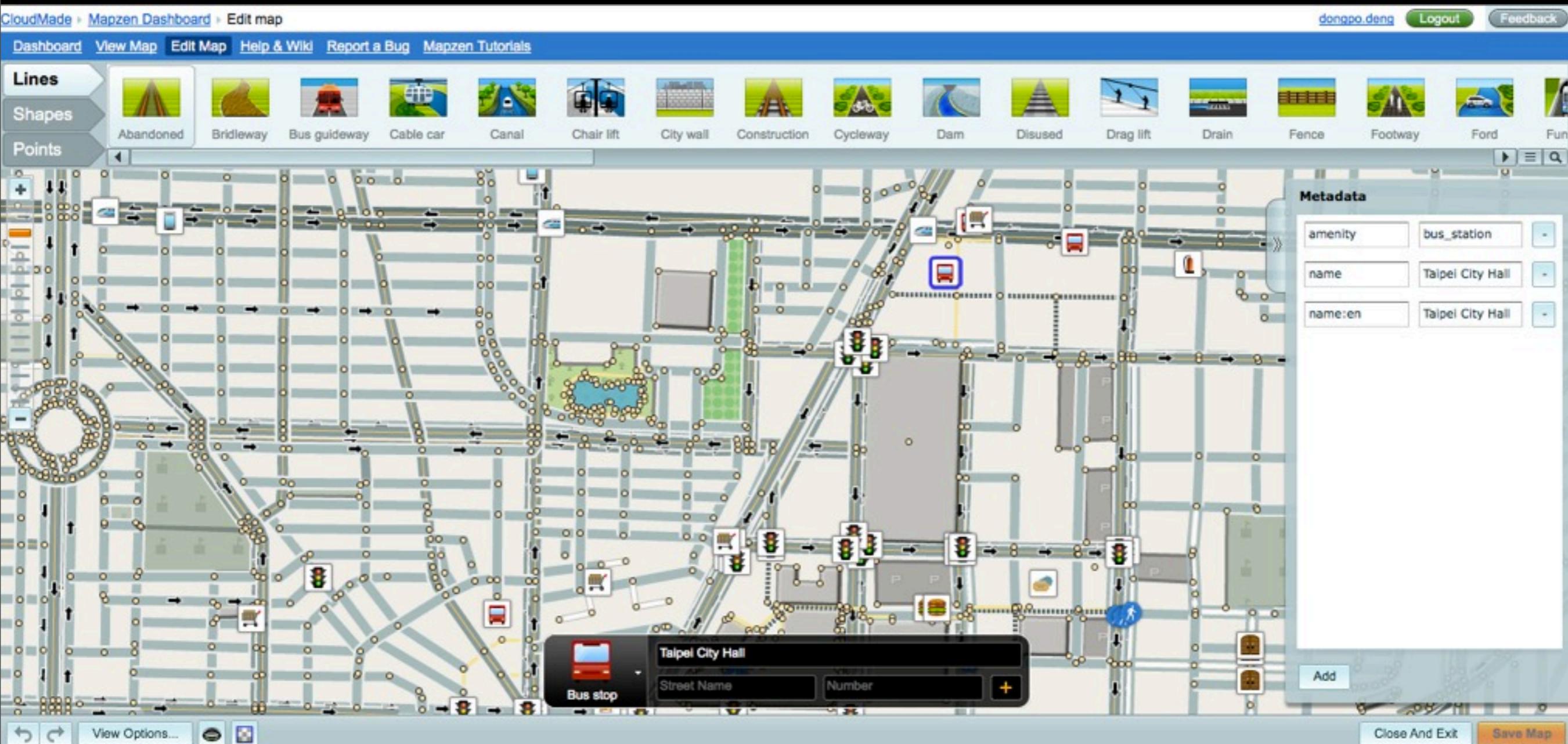


See more details <http://wiki.openstreetmap.org/wiki/Software>

Polatch2

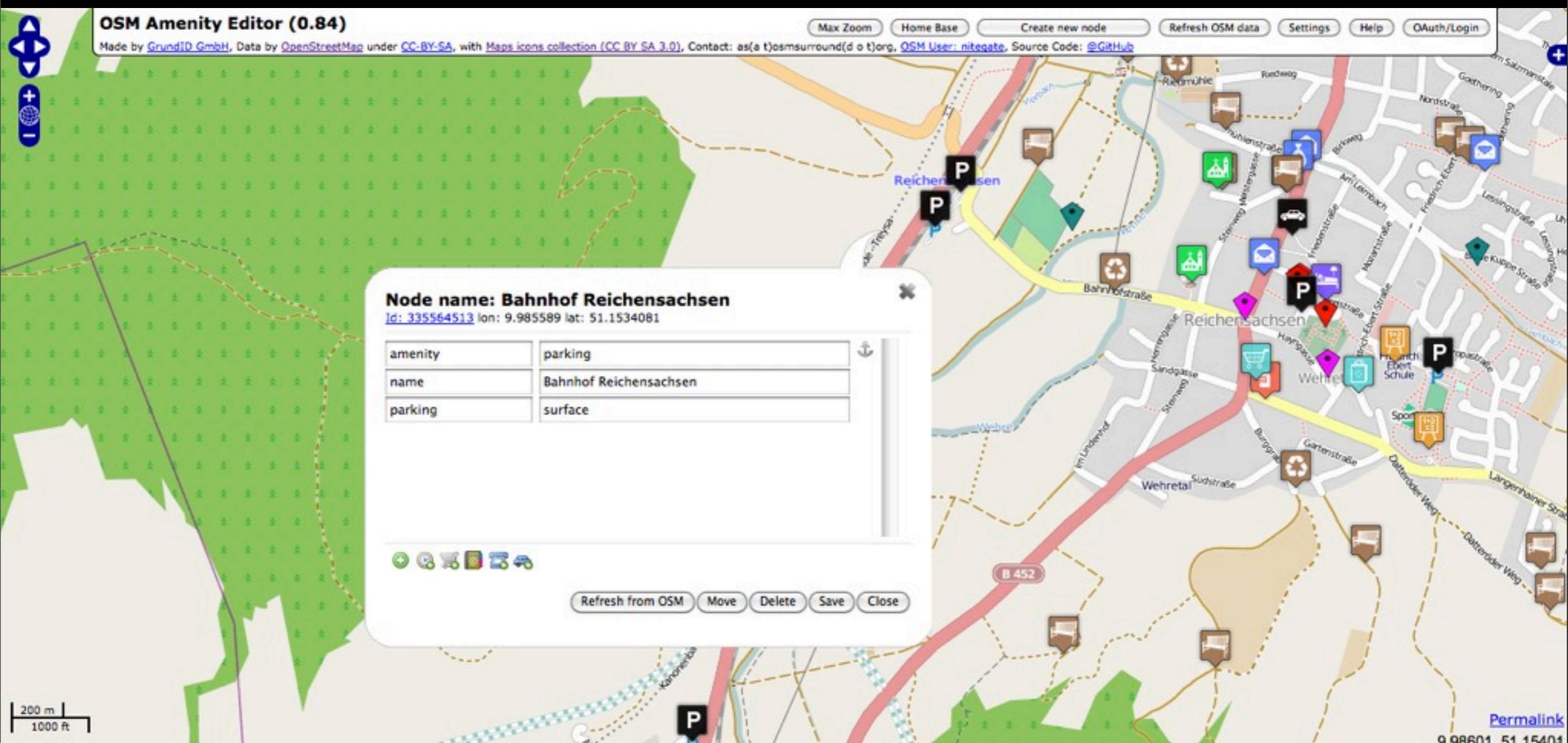
The screenshot shows the OpenStreetMap website interface. On the left, there's a sidebar with links like 'OpenStreetMap', 'View', 'Edit', 'History', 'Export', 'GPS Traces', and 'User Diaries'. Below these are sections for 'Shopping', 'Food and Drink', 'Amenity', 'Tourism', 'Accommodation', and 'Transport', each with a grid of icons. A search bar with 'Search' and 'Where am I?' buttons is also present. The main area features a satellite map of Berlin with several colored GPS traces overlaid. One trace is red, another is blue, and a third is orange. There are green dots scattered across the map, likely representing waypoints or specific locations of interest. The bottom right corner contains a toolbar with icons for file operations. The top right corner shows a user welcome message: 'Welcome, dongpo | home | inbox (0) | log out'.

Mapzen



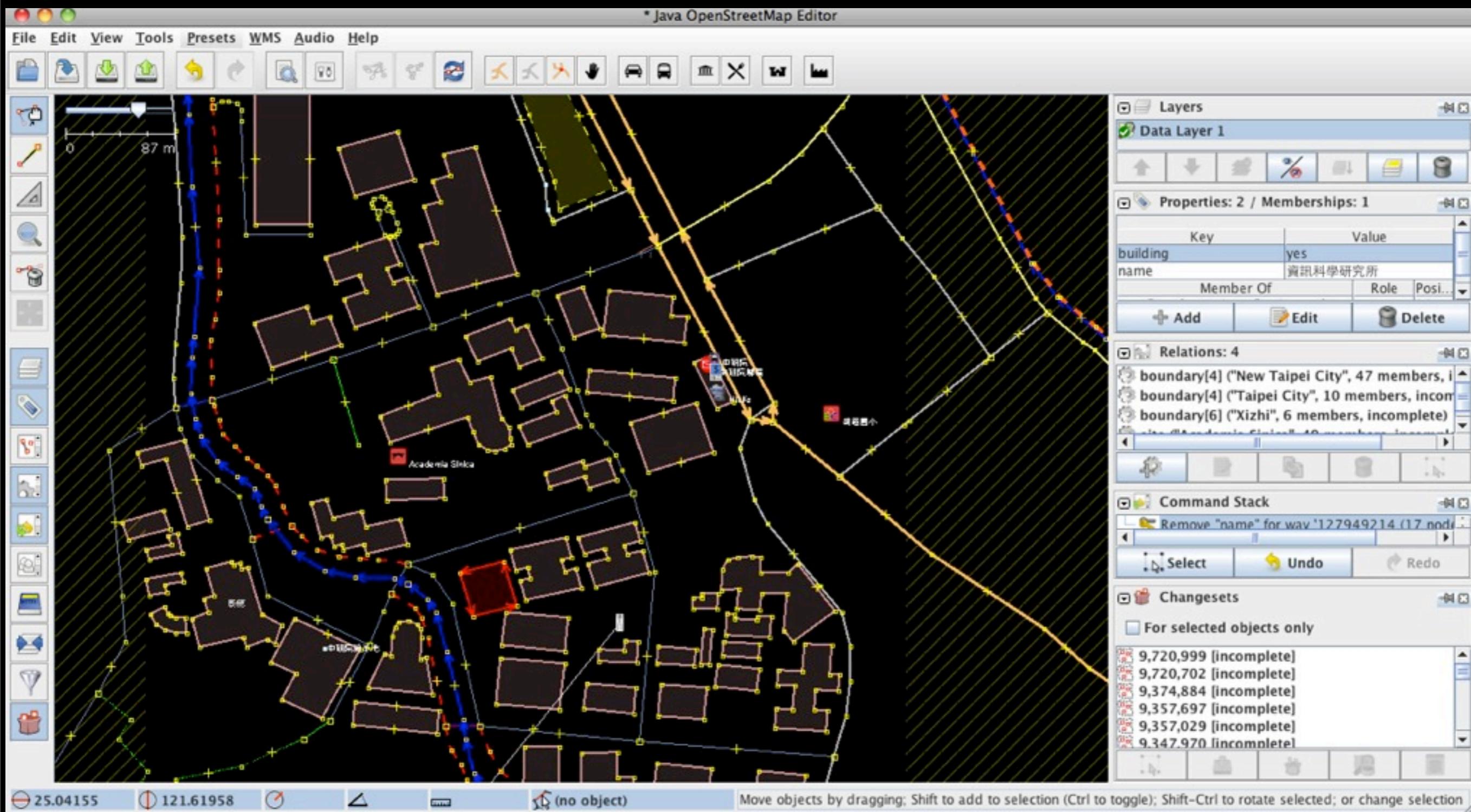
mapzen.cloudmade.com

Amenity Editor

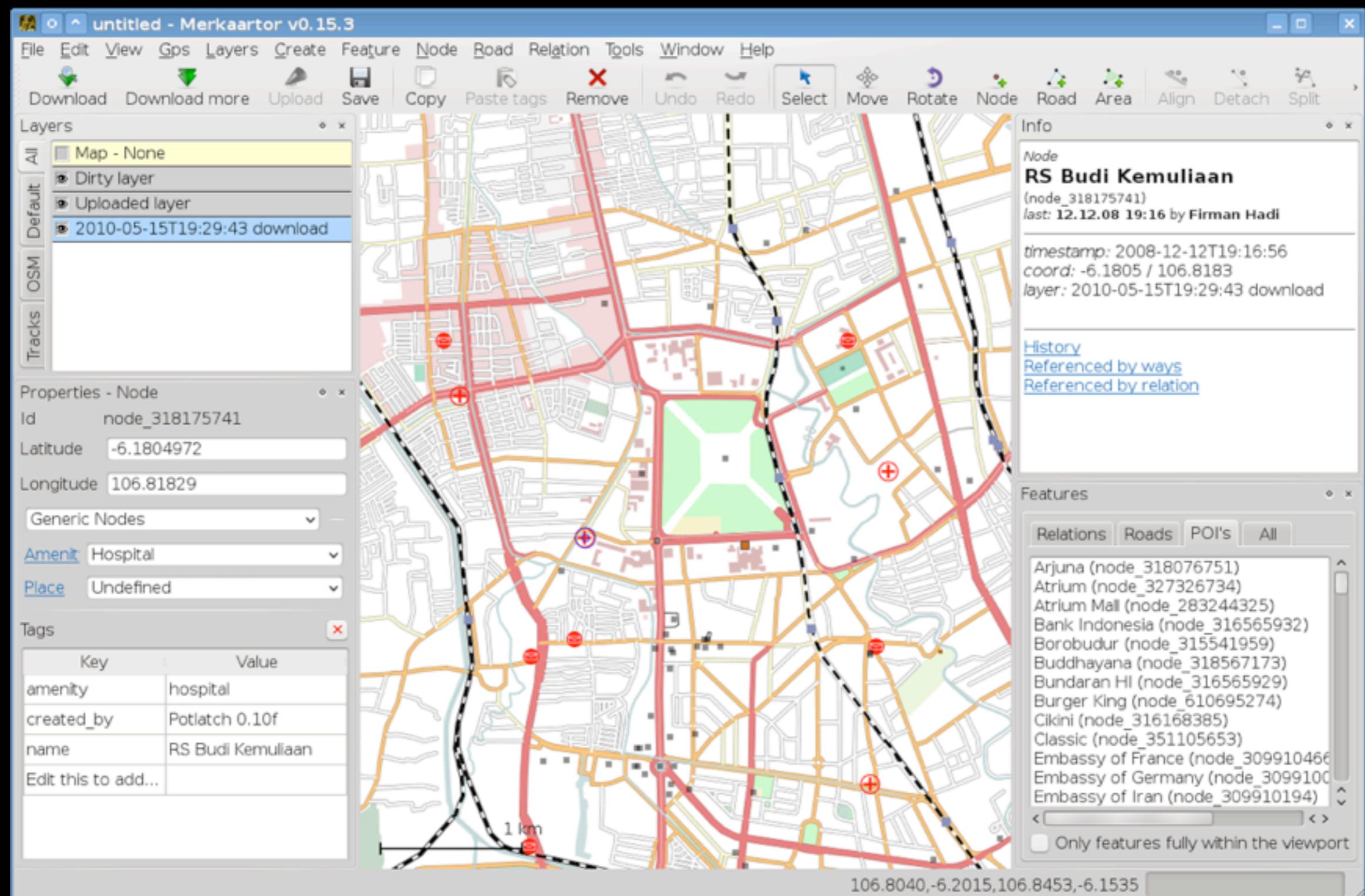


<http://ae.osmsurround.org/ae/index>

JSOM

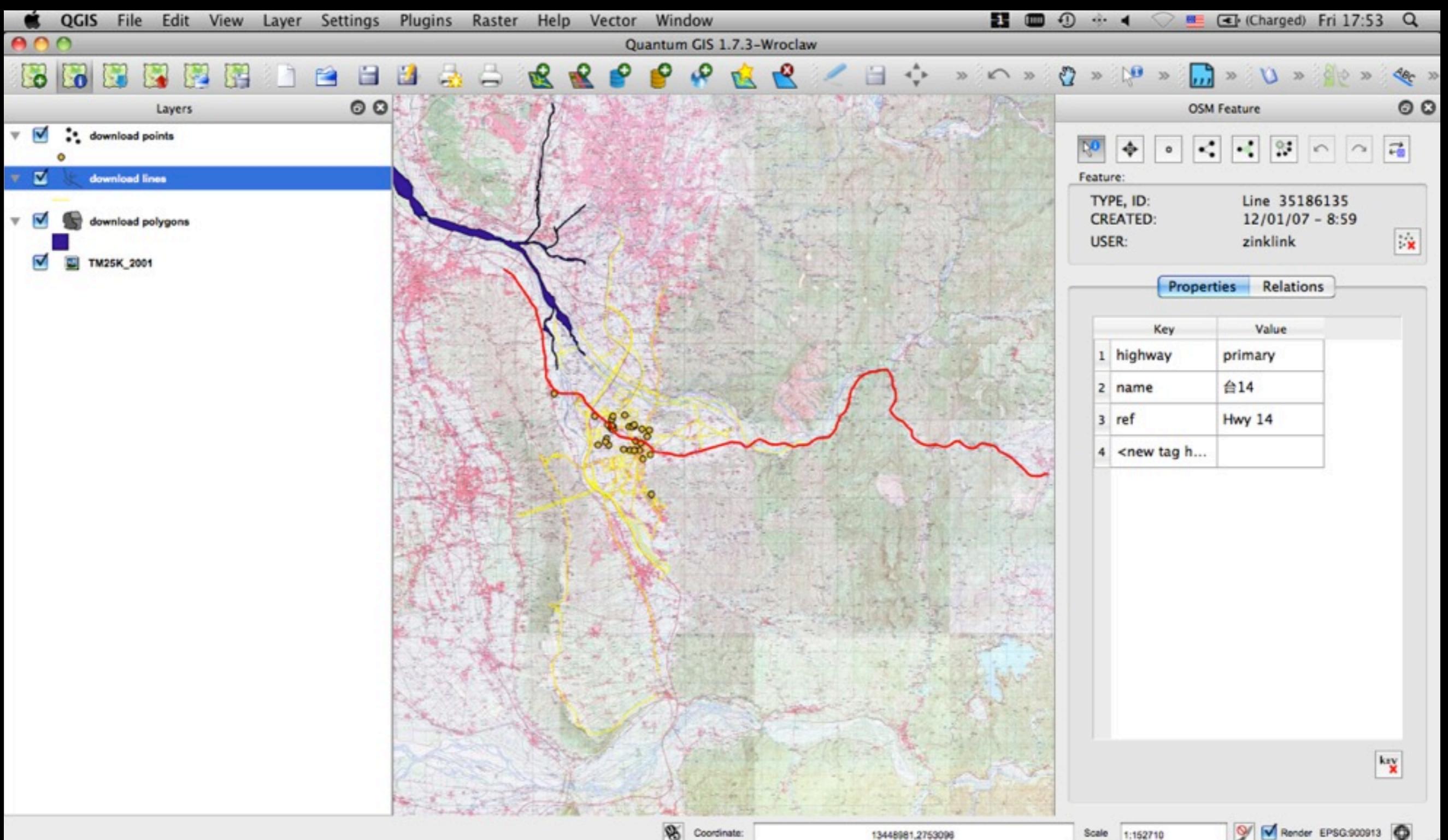


Merkaator



<http://merkaartor.be/>

OSM Plugins for QGIS

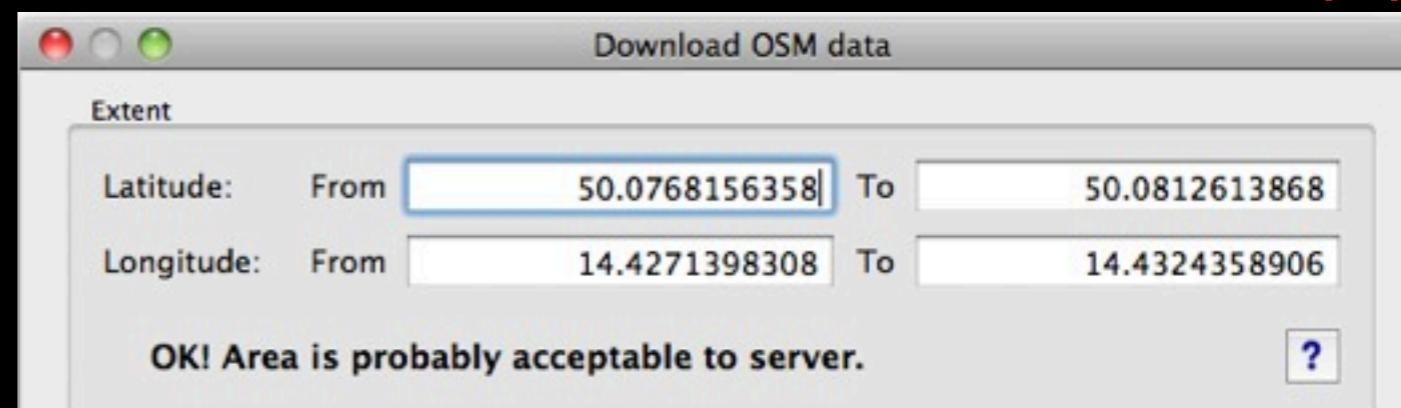


由QGIS下載OSM資料

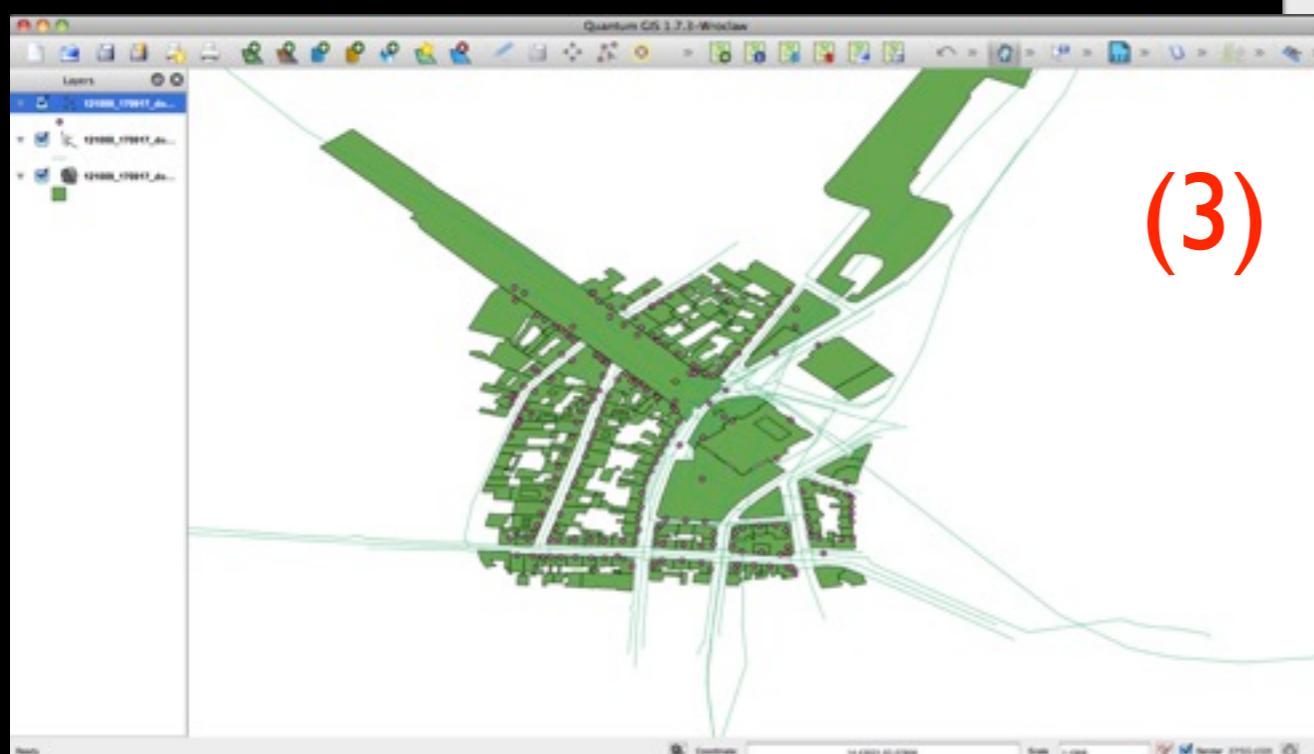
(1)



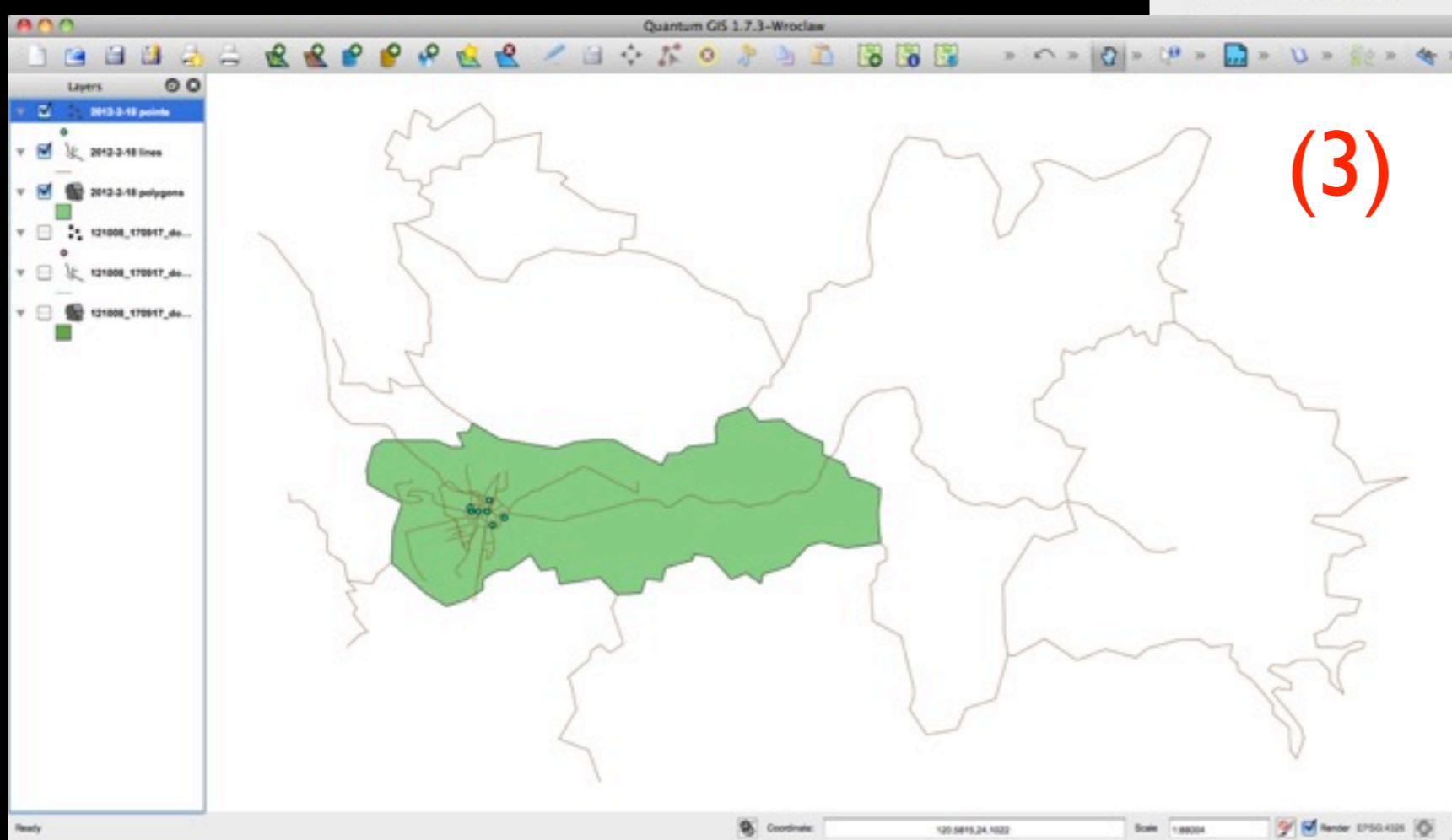
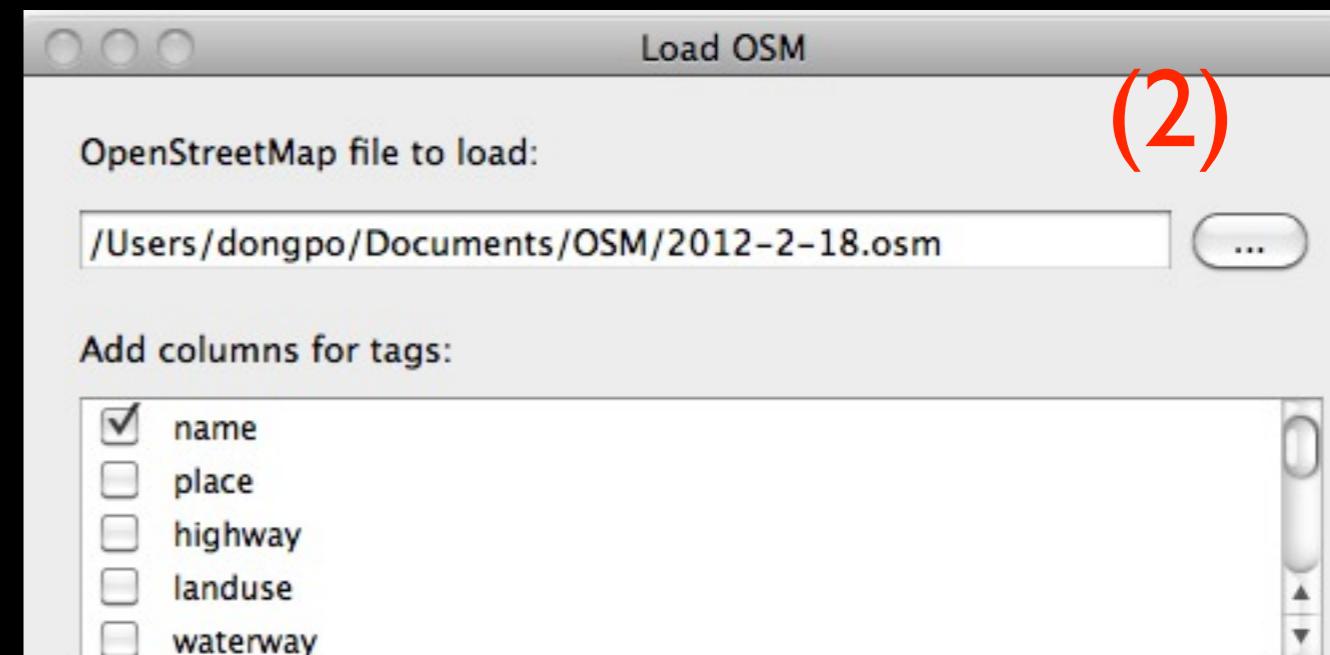
(2)



(3)



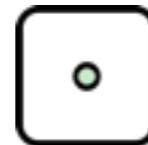
在QGIS開啟OSM檔



OSM的資料管理

幾何模型

Node



Way

Open ployline



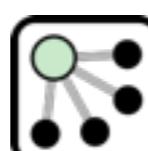
Closed ployline



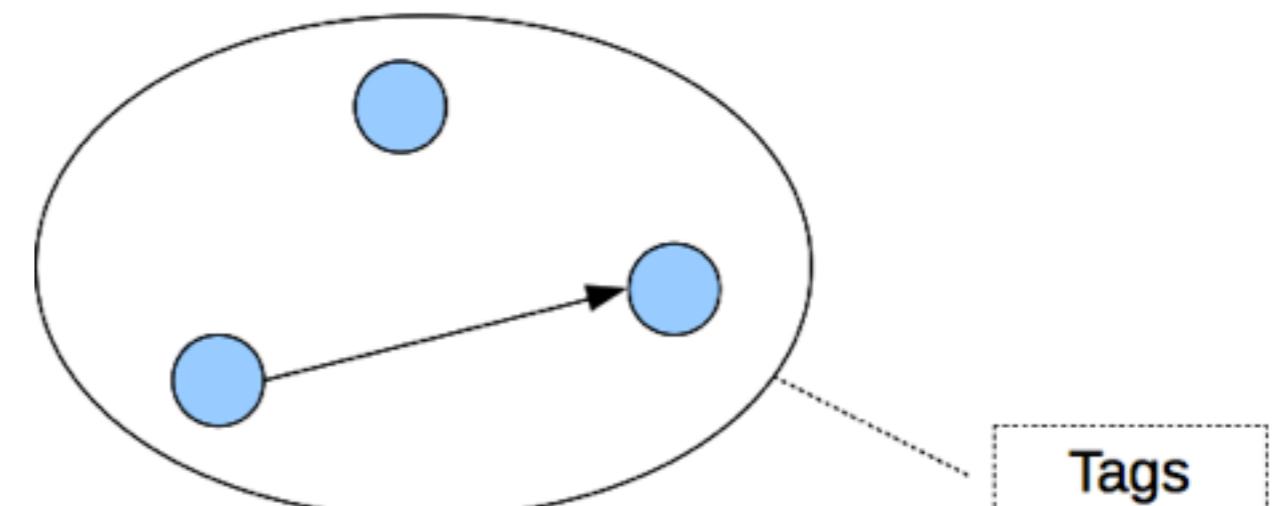
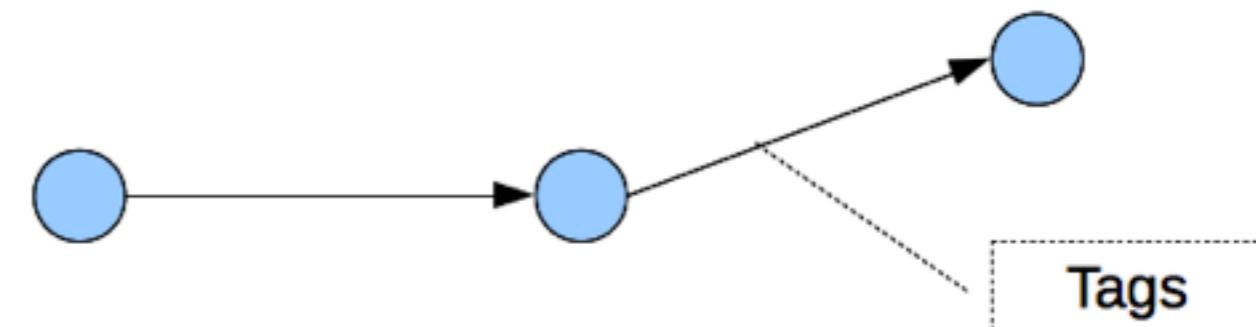
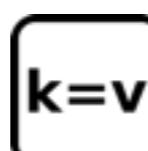
Area



Relation



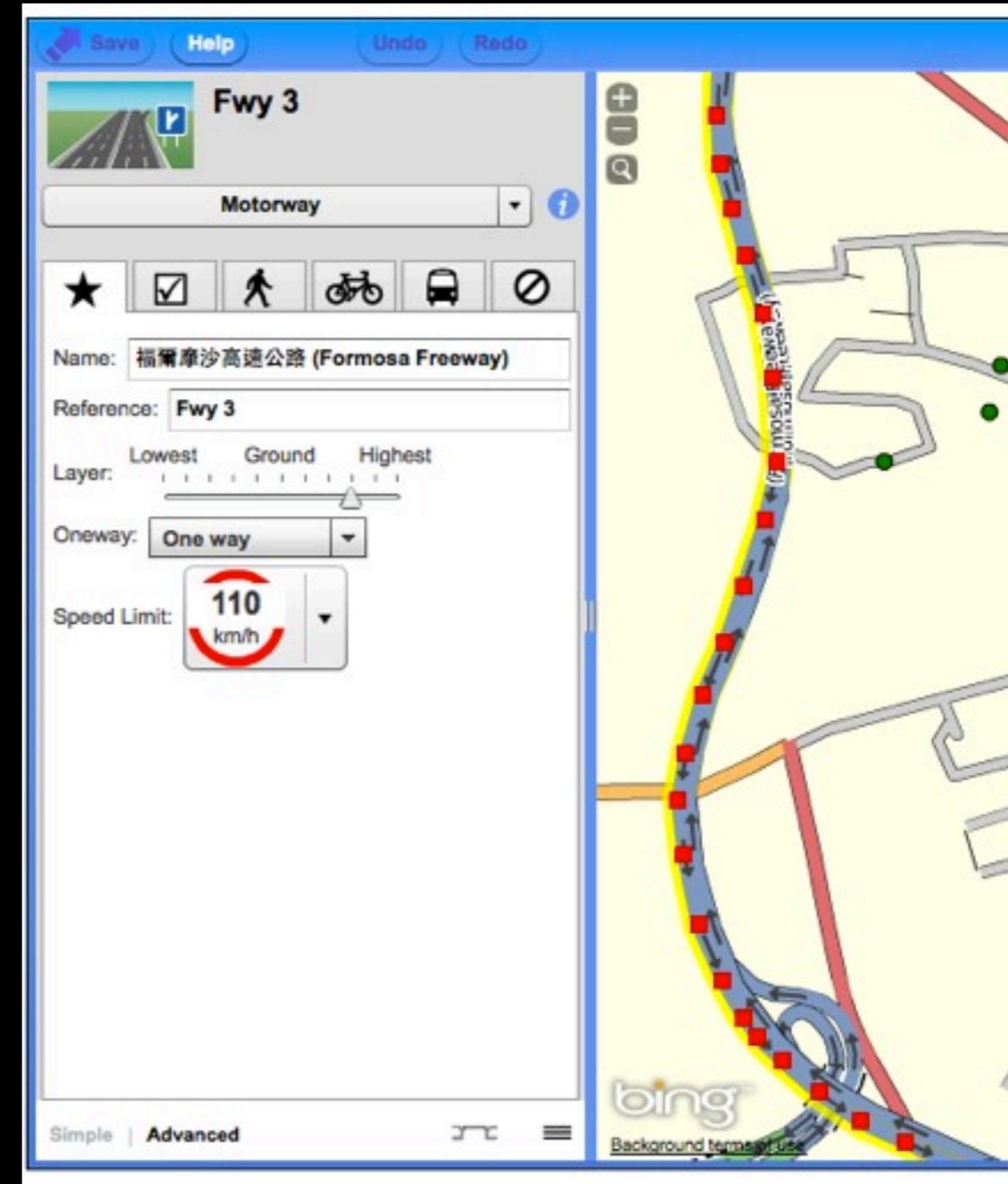
Tag



更多資訊 http://wiki.openstreetmap.org/wiki/Data_Primitives

圖徵(Map feature)

- Key / value
 - highway = motorway
 - name = 福爾摩沙高速公路
 - ref = Fwy3
 - maxspeed=110
- Recommended usage
 - (wiki:Map Features)
 - Consensus (Tagwatch, OSMdoc)
 - Homogeneity : data reuse
 - Requirement adjust



各圖層的說明在Wiki上

關鍵(Key)	值(Value)	要素	說明	顯示	照片
道路(Roads)					
highway	motorway		高速公路。相隔的單向的公路，通常有二條以上的車道且有硬鋪用的路肩供緊急使用的，相當於美國的Freeway和德國的Autobahn。在台灣，如國道一號。		
highway	motorway_link		高速公路的匝道或連結道。連結二條高速公路，或至更低等級的道路。如高速公路的匝道。通常有相同道路的限制。		
highway	trunk		省道快速公路，如台北市市民大道高架橋，或市區高架道路，如省道台61線西濱快速道路。不是高速公路的重要道路。通常是由中央而不是地方地府來維護，單向車道必須被分開。在英國，就是綠色標記的道路，在OSM把它分類為'trunk'。		
highway	trunk_link		快速公路的連結道。連結二條快速公路，或至更低等級的道路。如快速道路的匝道		
highway	primary		省道。在台灣，如台3線。在英國行政區分上有"主"的意謂，用來連結二個大城市的道路。		
highway	primary_link		省道連結道。		
highway	secondary		縣道。在台灣是連結鄉鎮中心的道路。在英國行政區分上有"次"的意謂，用來連結二個小城市或村莊的道路。		

http://wiki.openstreetmap.org/wiki/Zh-hant:Map_Features

更詳細的tag描述

Log in / create account

Page Discussion Read View source View history Search

Tag:amenity=school

Available languages: العربية • Deutsch • English • Français • Italiano • 日本語 • Polski • Português do Brasil • Русский • Українська Other languages — Help us translating this wiki

Contents [hide]

- 1 Description
- 2 How to map
 - 2.1 Further detail
- 3 Other useful tags
- 4 Rendering
- 5 See also

Description

Used to identify a place where pupils, normally between the ages of about 5 and 18 are taught under the supervision of teachers. This includes primary and secondary schools. See [amenity=kindergarten](#), [amenity=college](#), [amenity=university](#) for other educational establishments.

How to map

Use a node in the middle of the site, or alternatively mark the boundary of the school using an area . This area should envelop the full grounds of the school including all the buildings, sports facilities and grounds. For schools with multiple sites the [multipolygon](#) relation can be used. Tag the element with **amenity=school** and **name=*** for the name of school. Add **fee=yes** if the school makes a direct charge for core services.

Further detail

Entrances across the boundary can be tagged with **school=entrance** and if appropriate **barrier=gate**. This node would also be part of a footway or service road from the main road network so that it is possible to route to the entrance of the school.

School buildings can be tagged with **building=school**. Building entrances can be mapped with a node on the building outline, with one of the following tags:

- **entrance=main** for the main entrance
- **entrance=yes** for secondary entries

amenity=school

Description: Institution designed for learning under the supervision of teachers.

Used on these elements:

Useful combination:

- **name=***
- **operator=***

taginfo [More...]

<input type="checkbox"/> 312727	9.13 %
<input checked="" type="checkbox"/> 166689	11.53 %
<input type="checkbox"/> 3719	23.95 %

資料檢核

- 和所有自由軟體一樣，資料品質的檢核是由社群完成
- Linus' law
 - given enough eyeballs, all bugs are shallow
 - 充夠的繪圖者和地圖使用者，所有問題很快的就會被發現。

OpenStreetMap



The Free Wiki World Map

OpenStreetMap is a free editable map of the whole world. It is made by people like you. OpenStreetMap allows you to view, edit and use geographical data in a collaborative way from anywhere on Earth.

OpenStreetMap's hosting is kindly supported by the UCL VR Centre, Imperial College London and Bytemark Hosting. Other supporters of the project are listed in the wiki.

View Edit History Export GPS Traces User Diaries « 1545283959 | 1545283961 »

Node: 我家^0^ (1545283960)

Edited at: Wed, 14 Dec 2011 02:57:24 +0000
Edited by: Eating
Version: 1
In changeset: 10112774
Comment: 1
Tags: name = 我家^0^
place = village
Coordinates: 25.0227054, 121.4530312
Part of: 141164448

[Download XML, view history or edit](#)

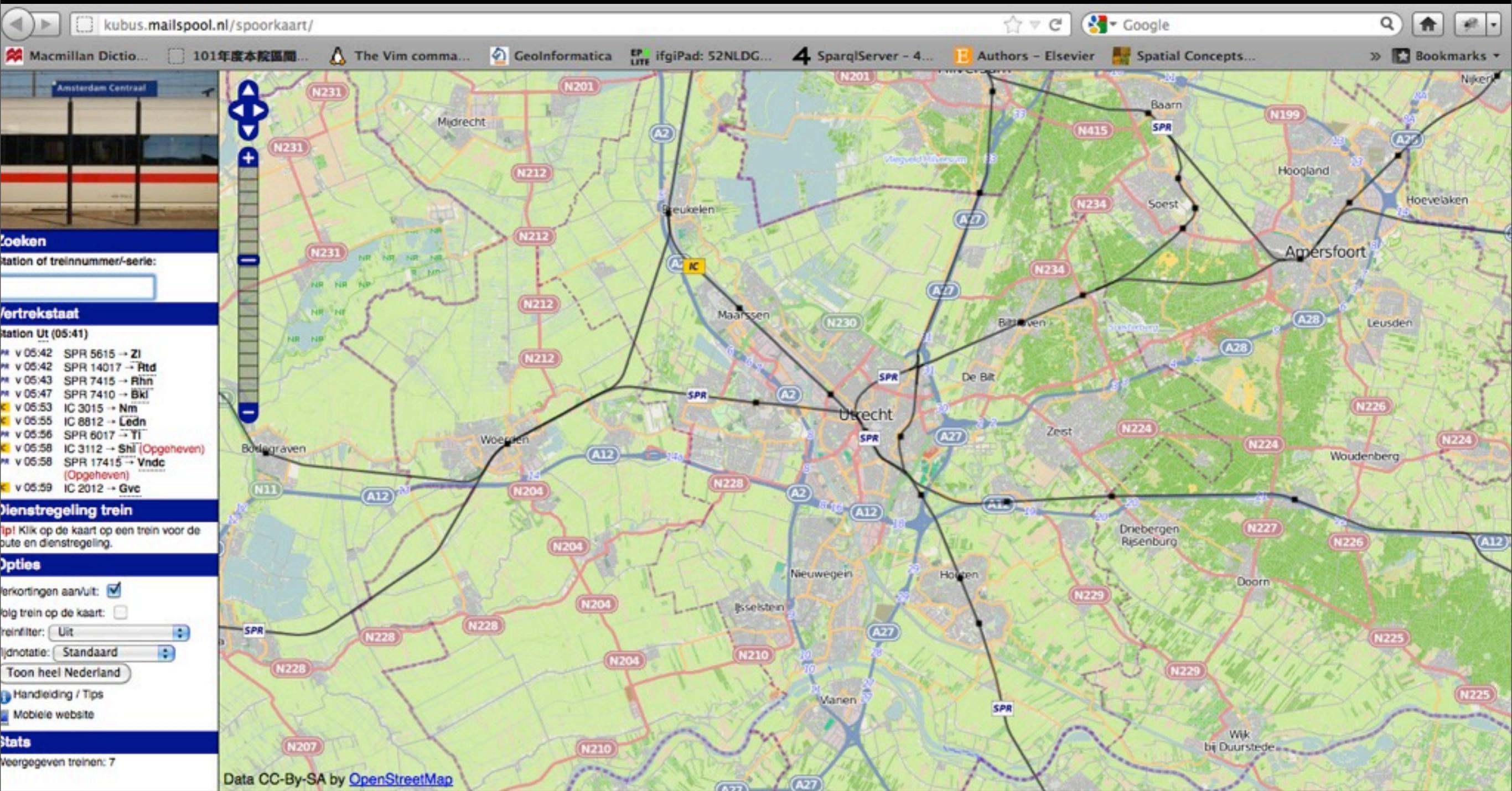


基於OSM的地圖服務

Real-time train map

<http://kubus.mailspool.nl/spoorkaart/>

利用OSM來製做火車即時路線圖



zotero

histOSM.org

用OSM做歷史遺跡分佈圖

The screenshot shows a web browser window for www.histosm.org. The page displays a map of Europe with a focus on the Netherlands, Germany, and Belgium. Overlaid on the map are numerous black 'X' marks indicating the locations of various historical sites. A legend at the top right identifies these symbols: Archaeosite, Battlefield, Castle, Memorial, Monument, Ruin, Wreck, and Waysidecross. On the left side of the map, there is a sidebar with links to 'MapService about Historic Information/Sites' and 'GIScience'. The main content area features a 'GetFeatureInfo' interface for 'HISTOSM_POINTS' with a table listing the following data:

OSM_ID	NAME	TYPE	HISTORIC	WIKIPEDIA
576198058	Schloss Osnabrück	castle	Y	
575878039	Justus-Möser-Denkmal	memorial	Y	
1165763422		monument	Y	
1502212264	Ludwig Windhorst Geburtshaus ruins		Y	
1488918128		wayside_cross	Y	
250760995		wayside_shrine	Y	
683140042	Schwedenschanze	battlefield	Y	
683136812		memorial	Y	
701426380	Kultstein	memorial	Y	
701426419	Butterstein	memorial	Y	

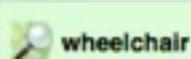
[Page](#) [Discussion](#)[Read](#) [View source](#) [View history](#)[Search](#)

Available languages

[Deutsch](#) • [English](#) • [Español](#) • [Suomi](#) • [Français](#) • [Italiano](#) • [日本語](#) • [Nederlands](#) • [Русский](#)[Other languages — Help us translating this wiki](#)[Help](#)[show](#)

Please help to translate this page to your language. Each single paragraph is appreciated.

This Tag may be used to mark places or ways that are suitable to be used with a wheelchair. It should only be used if you are sure about it, this can either be because there's a special sign or because of personal experience/someone with a wheelchair told you. There are also a lot of other Tags that can help to determine if the way is suitable for wheelchairs. If you are unsure, give more information in `description=*` or `wheelchair:description:lang=*` and/or leave a `FIXME` tag to have the object checked.



Common values

wheelchair=yes

Wheelchairs have full unrestricted access.

- entry: stepless
- rooms: stepless
- toilet (if any): accessible and cabin is wide enough to fit a wheelchair next to the toilet

Description

Indicate if a special place can be used with wheelchairs.

Group

Properties

Element help



taginfo [More...]

- 245 665
- 73 092
- 1909

Used combinations in

[show](#)

wheelchair=limited

Wheelchairs have partial access (e.g some areas can be accessed and others not, areas requiring assistance by someone pushing up a steep gradient).

- entry: has a step but not higher than 7 cm / 3 inch ('width of a hand')
- rooms: the most important rooms are stepless
- toilet (if any): not accessible

wheelchair=no

Wheelchairs have no unrestricted access (e.g. stair only access).

- entry: has a step higher than 7 cm / 3 inch
- rooms: the important rooms are not accessible
- toilet (if any): not accessible

wheelchair=designated

The way or area is designated or purpose built for wheelchairs (e.g. elevators designed for wheelchair access only). This is rarely used.

Note: There is currently no default value for wheelchair access. The `wheelchair=no` tag should be used to explicitly indicate a way is not accessible.

Examples

wheelmap.org

以OSM為基礎製作無障礙設施地圖服務

[Log in](#) | [Sign up](#) | [What is wheelmap?](#) | [Press](#) | [Imprint](#) | [Feedback](#) | [Newsletter](#) | [English](#)

i.e. Sunset Boulevard L.A. or Brandenburg Gate Berlin

find or Add another place

Wheelchair accessible?

- Yes: Entrance without steps, all rooms without steps, accessible toilet if customary in a place
- Limited: Entry has a step (max. height 7cm), most rooms are without steps, toilet is not accessible
- No: Entry has steep or several steps, rooms are not accessible
- Unknown: Help by mark places! [How?](#)

Choose category

Accommodation Bank post Education Food
Government Health Leisure Misc
Public transfer Shopping Sport Tourism

Alle auswählen Alle deaktivieren

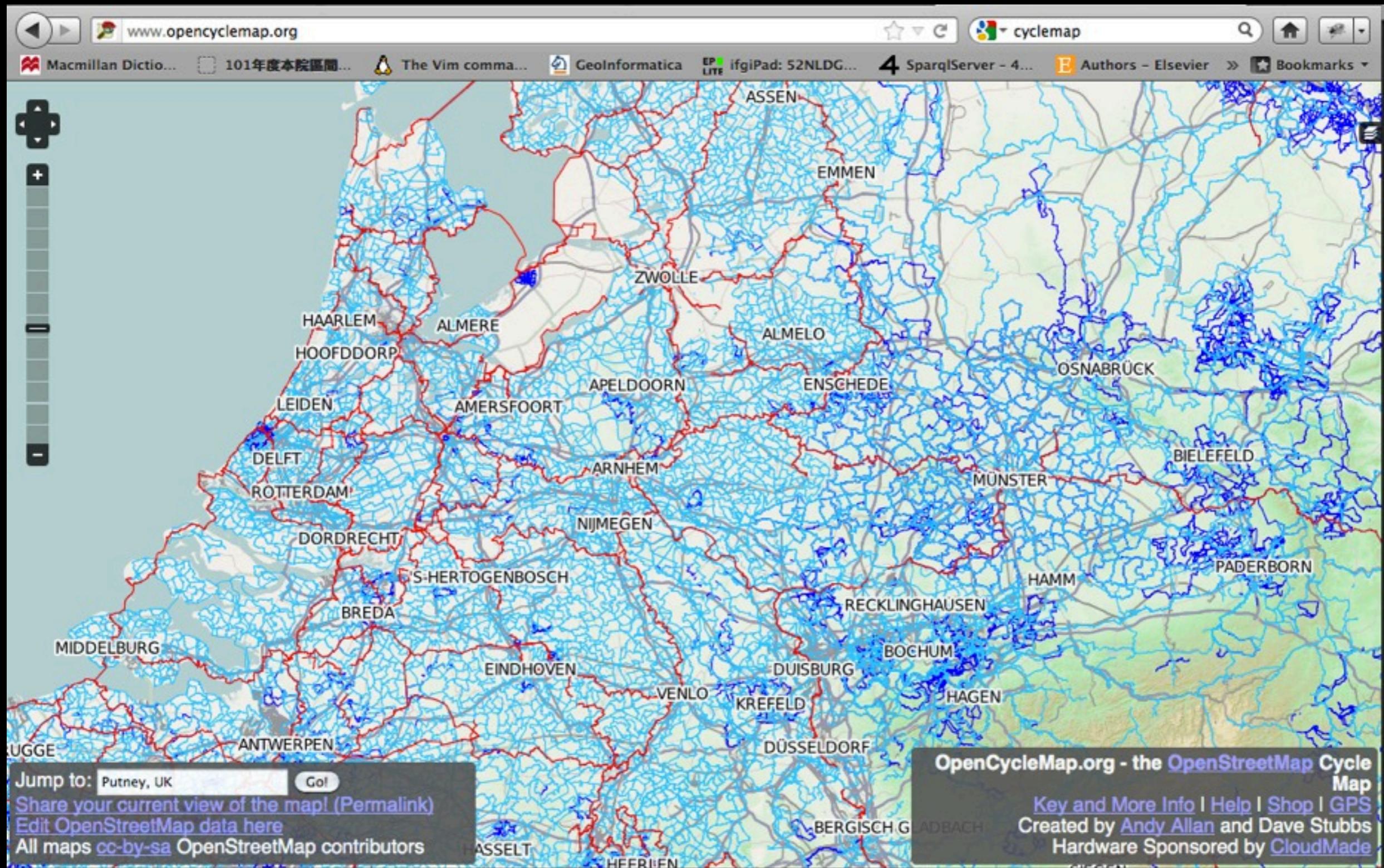
Available on the App Store ANDROID APP ON Google play

wheelmap.org LONDON JOIN US!

Based on OpenStreetMap | Main supporter | | A project by

opencyclemap.org

開放自行車道圖



實作：自己動手畫

瀏覽OSM地圖

The screenshot shows the OpenStreetMap website interface. At the top, there is a navigation bar with links for View, Edit, History, Export, log in, and sign up. On the left, there is a sidebar with a magnifying glass icon, a search bar containing 'Search' and examples like 'Alkmaar', 'Regent Street, Cambridge', and 'post offices near 'Open'', and links for Help Centre, Documentation, Copyright & License, Community, GPS Traces, and Map Key. A green banner at the bottom left promotes 'STATE OF THE MAP USA 2012' in Portland, Oct 13-14, with options to Signup now and Make a Donation. The main area displays a detailed map of Taipei, Taiwan, with various roads, highways, and geographical features labeled in Chinese. A red box highlights the zoom controls on the left side of the map, and a red arrow points from the text '瀏覽OSM地圖' to these controls.

瀏覽地圖的編輯歷史

www.openstreetmap.org/browse/changesets?bbox=121.185%2C24.829%2C122.035%2C25.278

View Edit History Export log in | sign up

 OpenStreetMap
The Free Wiki World Map

OpenStreetMap is a free worldwide map, created by people like you.
The data is free to download and use under its open license.
Create a user account to improve the map.

Help
Help Centre
Documentation
Copyright & License
Community
Community Blogs
Foundation
User Diaries
GPS Traces

STATE OF THE MAP USA 2012
Portland, Oct 13-14
Signup now ▶

Make a Donation

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Changesets

Changesets within 121.185,24.829,122.035,25.278

« Previous | Showing page 1 | Next »

#	Date	User	Description
#13414828	October 08, 2012 16:30	mixmaxtw	Taoyuan road adjustments
#13410443	October 08, 2012 11:32	S-1-5-7	Fixed type of path; added another footpath
#13410105	October 08, 2012 10:54	S-1-5-7	Fixed road ends
#13409701	October 08, 2012 09:15	S-1-5-7	road names
#13409659	October 08, 2012 09:10	S-1-5-7	road names
#13408982	October 08, 2012 08:13	S-1-5-7	road names
#13408961	October 08, 2012 08:11	S-1-5-7	road names
#13408841	October 08, 2012 07:58	S-1-5-7	street name
#13408377	October 08, 2012 07:09	mixmaxtw	Taoyuan road adjustments
#13405152	October 07, 2012 21:49	BugBuster	fixing duplicated nodes in ways
#13404927	October 07, 2012 21:07	walo	FIX McDonald's
#13404885	October 07, 2012 21:04	walo	FIX McDonald's
#13400151	October 07, 2012 23:58	walo	Corrections on single tags.

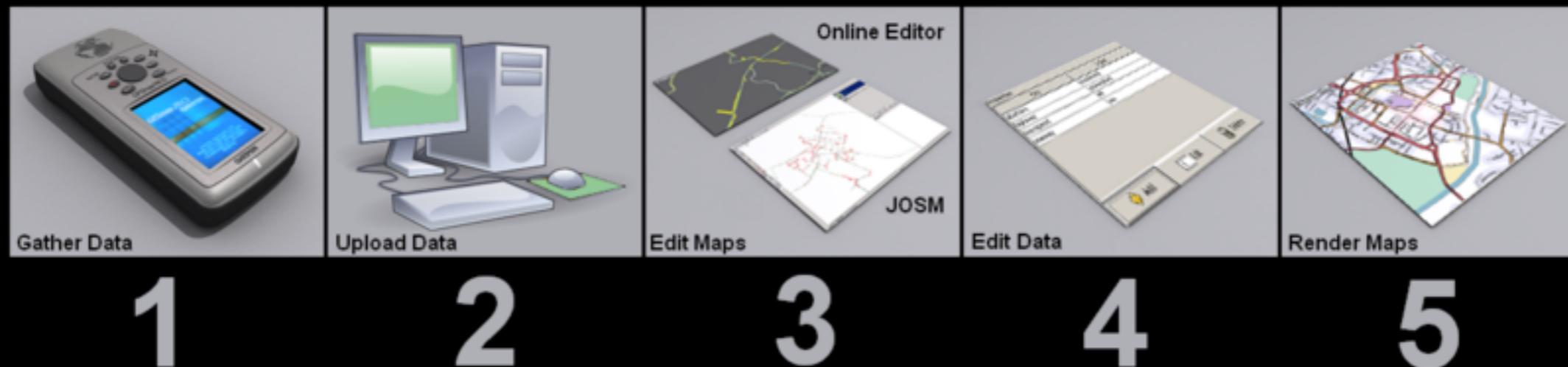


輸出地圖

The screenshot shows the OpenStreetMap website interface. At the top, there's a navigation bar with links for View, Edit, History, Export (which is highlighted in green), and log in / sign up. On the left, there's a sidebar with links for OpenStreetMap, Search, Help, Community, GPS Traces, Map Key, and a section for the 'STATE OF THE MAP USA 2012' event in Portland. The main area displays a map of a city in Taiwan, with various roads, landmarks, and geographical features labeled in Chinese. A modal dialog box titled 'Export' is overlaid on the map. This dialog box has two sections: 'Area to Export' and 'Format to Export'. The 'Area to Export' section contains four input fields with coordinates: 25.0815, 121.5729, 121.6472, and 25.0253. Below these fields is a link 'Manually select a different area' with a red arrow pointing to it. The 'Format to Export' section contains three radio button options: 'OpenStreetMap XML Data', 'Map Image (shows standard layer)', and 'Embeddable HTML'. There's also an 'Export' button at the bottom of this section. A red box highlights the entire 'Area to Export' section, and another red arrow points from the 'Manually select a different area' link to the map area.

編輯地圖的步驟

1. 開啟或登入帳號，開始進入OSM
2. 收集資料，用GPS或其它方式
3. 上傳GPS，若沒有GPS就省略
4. 編輯地圖，根據調查資料畫圖
5. 編輯資料，加入屬性資料(tag)
6. 上傳並查看



登入或開啟帳號

View Edit History Export log in | sign up



OpenStreetMap
The Free Wiki World Map

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Help
[Help Centre](#)
[Documentation](#)
[Copyright & License](#)

Community
[Community Blogs](#)
[Foundation](#)
[User Diaries](#)

GPS Traces

Login

Don't have an account? [Register now](#)

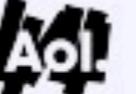
Email Address or Username:

Password: ([Lost your password?](#))

Remember me

[Login](#)

Alternatively please use your OpenID to login:

[Remember me](#)

貢獻者條款

OpenStreetMap | Contributor terms - Mozilla Firefox 1:54PM 10/20/12

openstreetmap.org https://www.openstreetmap.org/user/terms

OpenStreetMap View EDIT History Export GPS Traces User Diaries log in | sign up

Contributor terms

Please read the agreement below and press the agree button to confirm that you accept the terms of this agreement for your existing and future contributions.

Please select your country of residence: France Italy Rest of the world

Thank you for your interest in contributing data and/or any other content (collectively, 'Contents') to the geo-database of the OpenStreetMap project (the 'Project'). This contributor agreement (the 'Agreement') is made between you ('You') and The OpenStreetMap Foundation ('OSMF') and clarifies the intellectual property rights in any Contents that You choose to submit to the Project in this user account. Please read the following terms and conditions carefully and click either the 'Accept' or 'Decline' button at the bottom to continue.

Introduction

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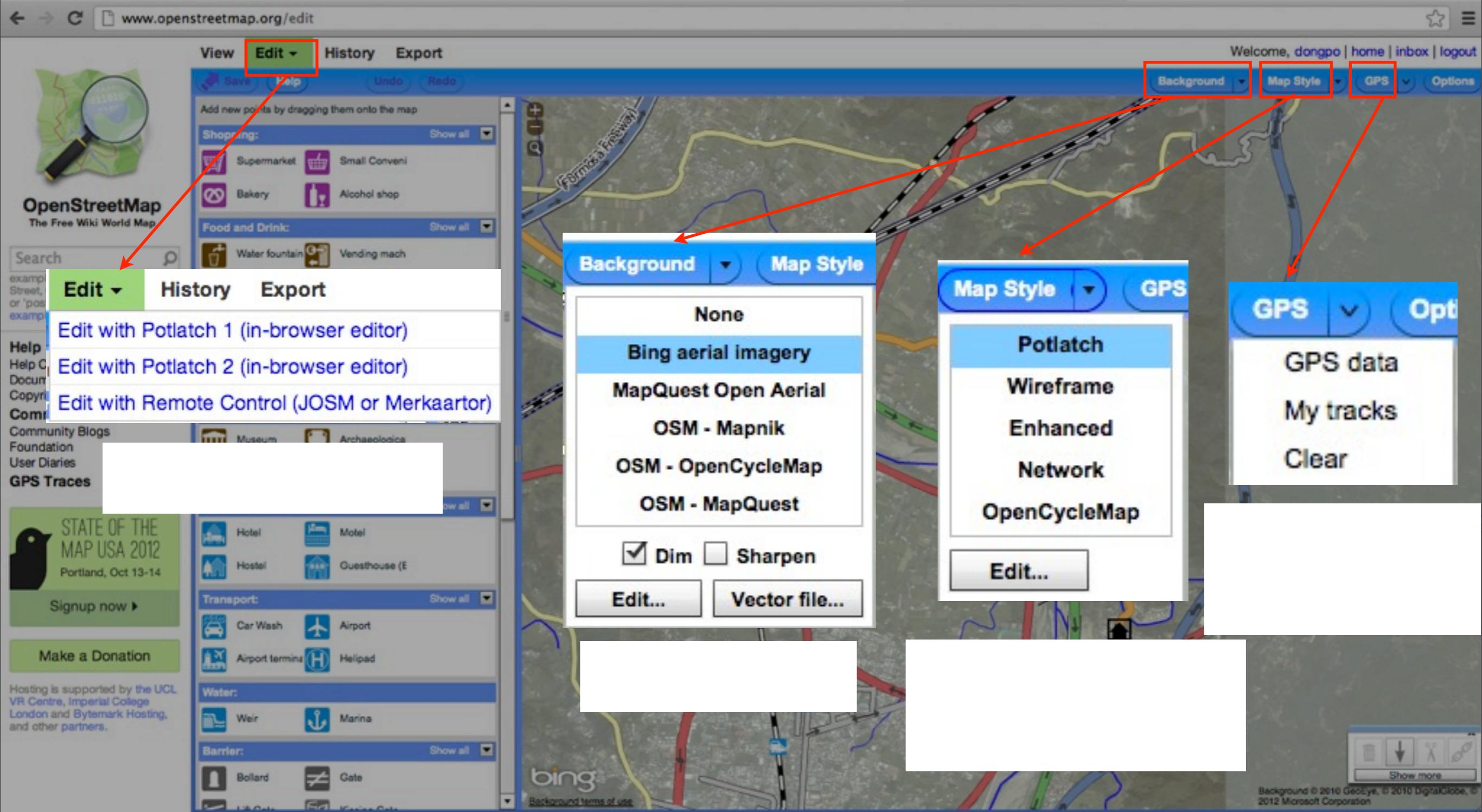
Rights Granted

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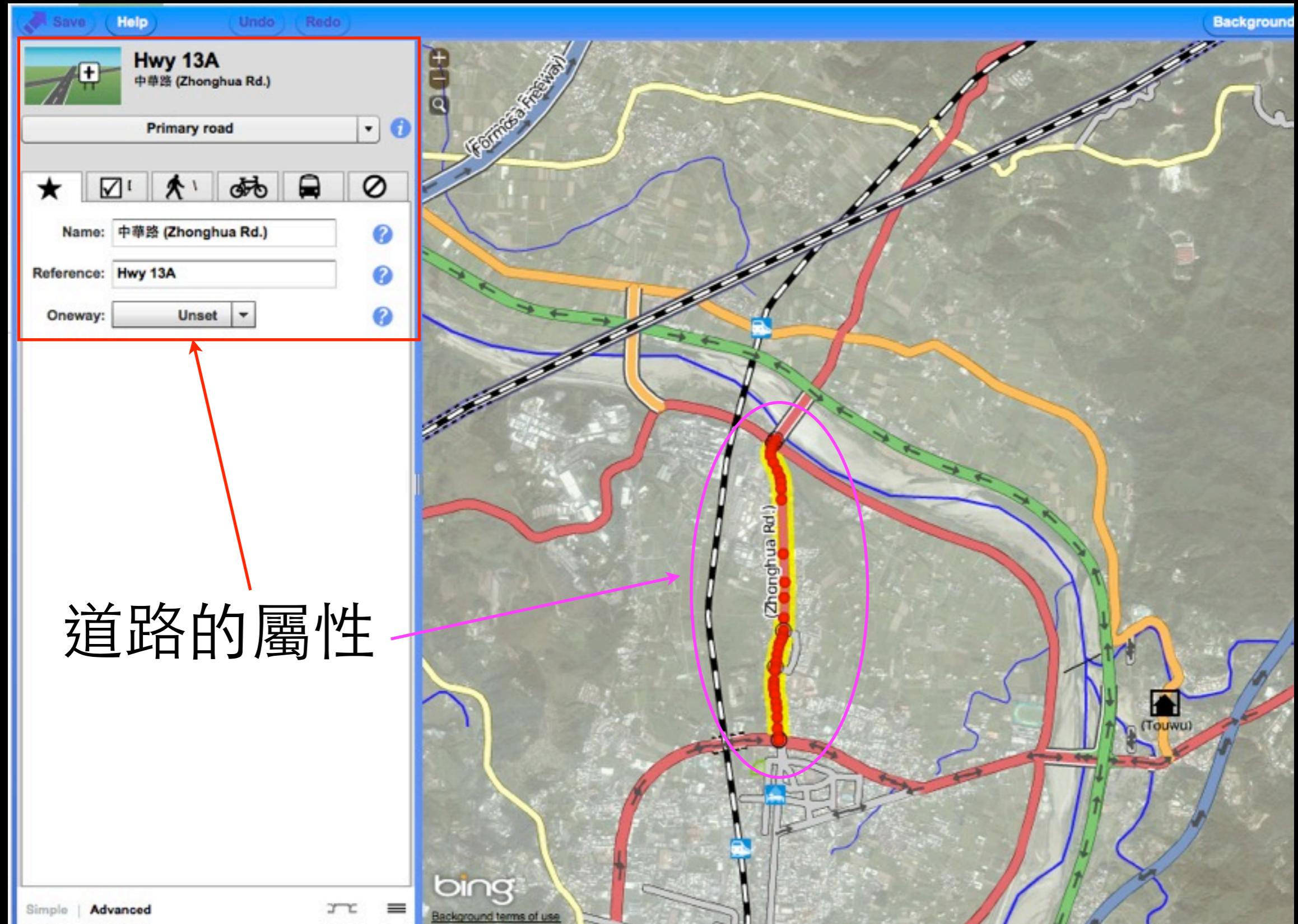
In addition to the above agreement, I consider my contributions to be in the Public Domain ([what's this?](#))

Decline Agree

編輯Polatch的環境(I)

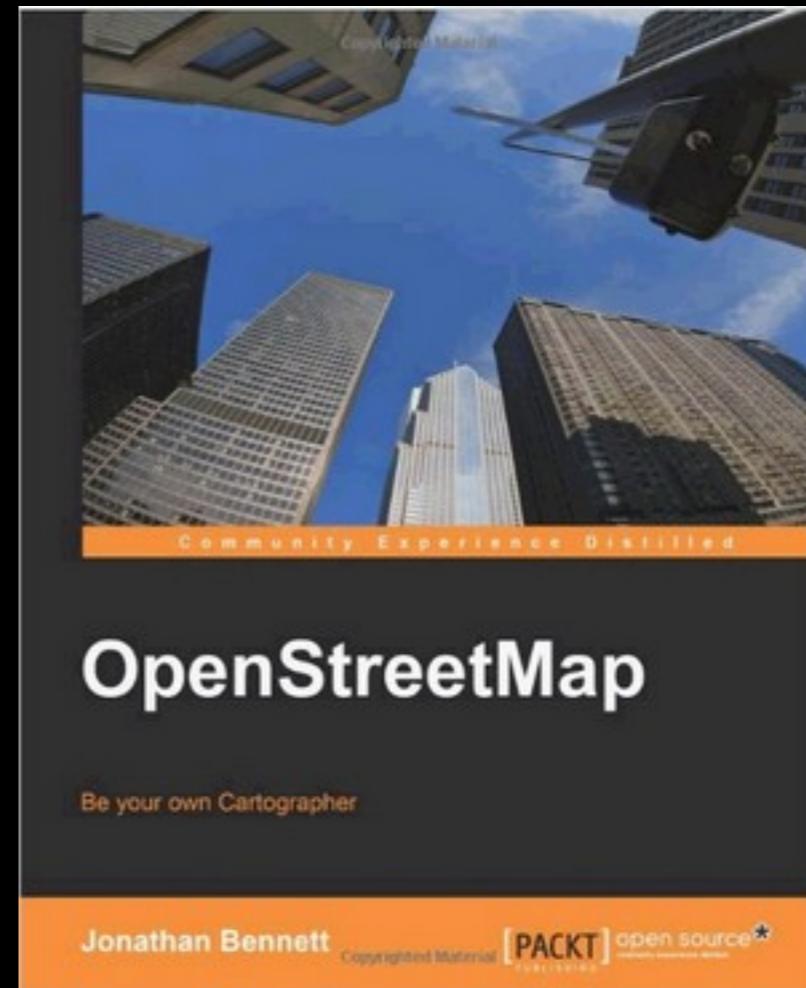
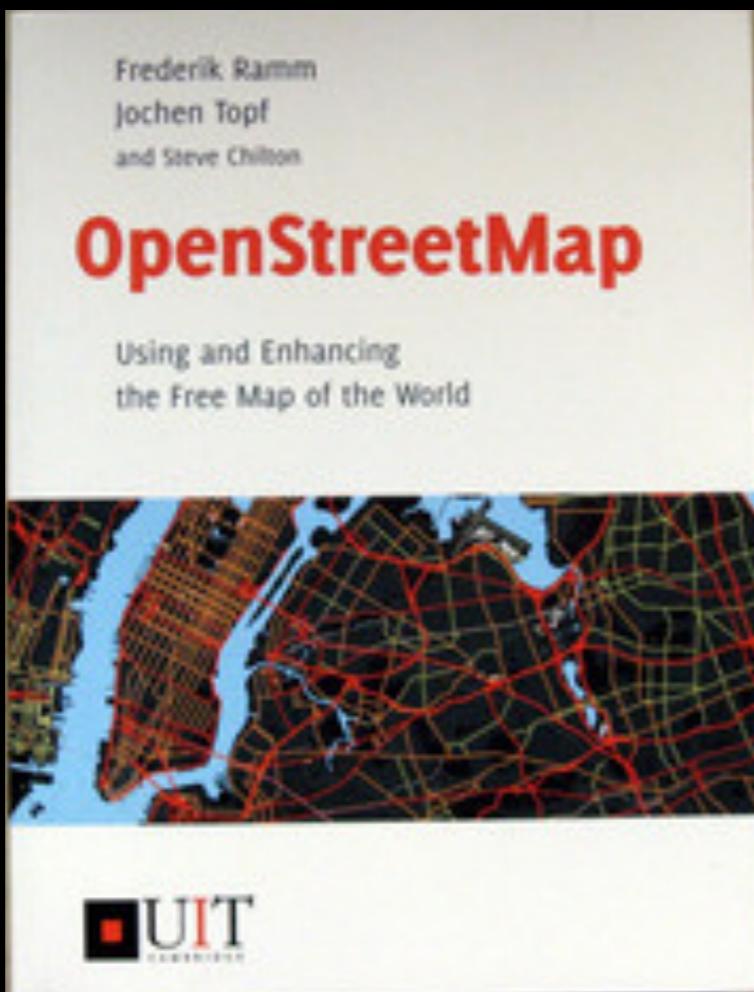


編輯Polatch的環境 (II)



延伸閱讀

OSM專書：



線上資源：

http://wiki.openstreetmap.org/wiki/Main_Page

<http://www.learnosm.org/>



謝謝聆聽，敬請賜教！

