

Crowdsourcing in National Mapping 2017
An International Workshop
Leuven, Belgium April 3rd and 4th 2017



Hackathon Challenge Introduction

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Marathons of development

- Hackathon: An event in which software developers and subject-matter-experts collaborate intensively on a software project.
 - Creating new software
 - Combining existing software
- Datathon: An event to add value to data by processing it with existing software.
- Mapathon: An event to improve map data

Ingredients of a hackathon

- Objective
- Planning: 1 event (1-2 days), Split event (Call-Development-Presentation)
- Software developers, subject-matter-experts
- Incentives: Learning, Prizes
- Challenges: Feasible tasks as part of overall plan and follow-up work
 - May vary from general proof-of-concept to specific development

Hackathon examples

Project Human Sensor Web (Zanzibar-Tanzania)

Billboard at water tap

Text messages on
water availability



Human Sensor Web

End user application

H2.0 – Human Sensor Web

Developed by ITC, WMC, 52°North with the support of ZAWA and Zantel. Funded by google.org and UN-HABITAT.

Logos: google.org, WMC (Twanze Institute for Wireless and Mobile Communications), UN-HABITAT, part of etisalat, ITC, 52north, ZAWA (Zanzibar Animal Welfare Association).

Water point	Message	Time
53-0-104521	No water	2011-03-16 15:56
53-0-102122	No water	2011-03-14 08:42
53-0-101021	No water	2011-03-11 06:32
53-0-104021	Dirty water	2011-02-16 14:42
53-0-102420	No water	2011-02-09 07:54
53-0-102520	No water	2011-01-27 04:32
53-0-212103	No water	2011-01-24 20:20
53-0-101021	No water	2011-01-24 20:08
53-0-232103	No water	2011-01-23 16:21
53-0-232104	No water	2011-01-23 16:13

Message Origin Filter

- Info Messages
- Service Messages

Message Type Filter

- Water service ok
- Dirty water
- No water available

Message Time Filter

Show messages.

Actions

[Get CSV](#) [Get Table](#) [Reload](#)

Challenges



Challenge 1: Simple mobile phone client for water point status reporting

Background

Up-to-date Information on water point status is needed for improved water management. We need to facilitate the reporting by an easy to use method for initiating, sending and receiving reports on water point status. Currently, despite the rise of the smartphone, there are many simple mobile phones in use, without facilities for accurate positioning and advanced data input.

Question

How can we create a client on a simple mobile phone for a COWSO chairperson to report on the status of water points?

Hackathon Tanzania

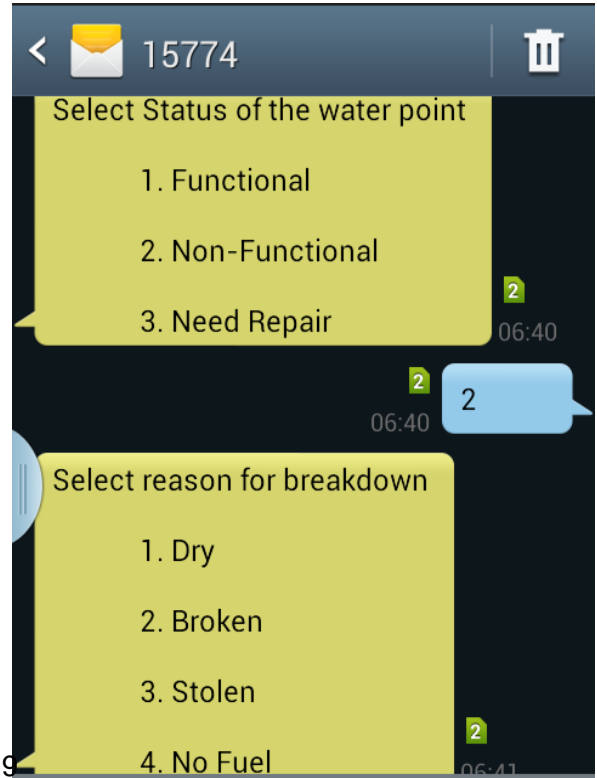
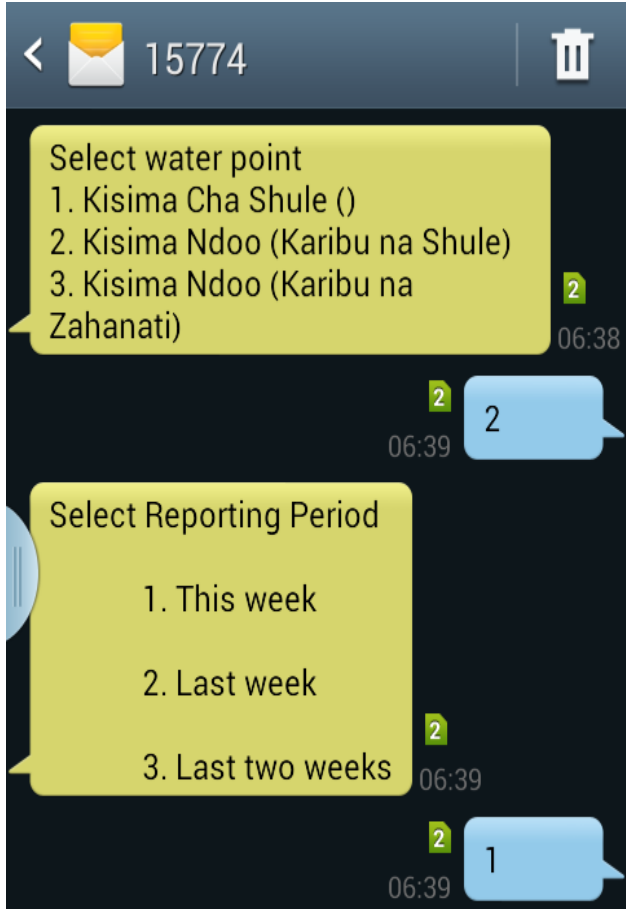
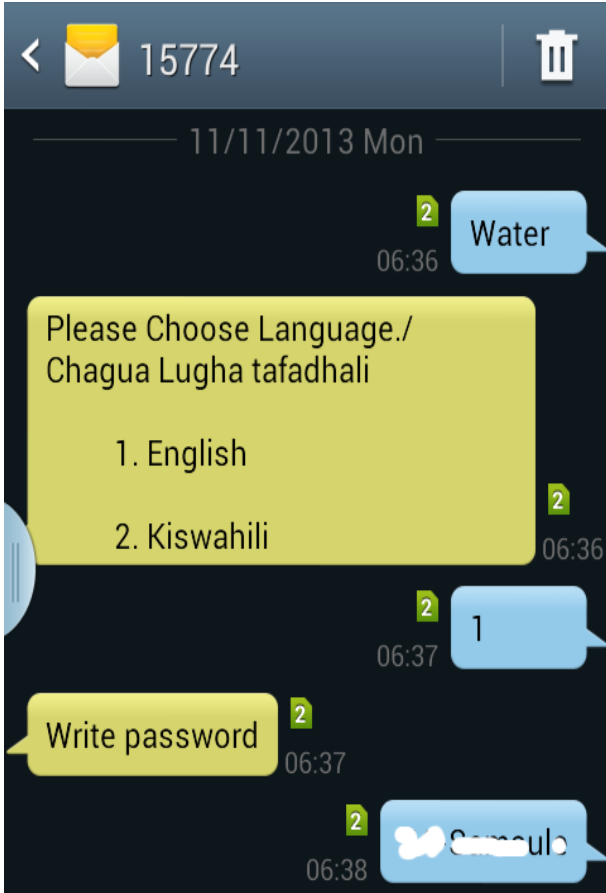
Challenges:

- 1 Input: USSD App
- 2 Input: Android App
- 3 Interoperability
- 4 Output: Ontology-based Web
- 5 Output: Android App



```
95 var OpenLayers={singleFile:true};(function(){var singleFile=(type
scriptLocation="";var isOL=new RegExp("(^|\\.*/)")+"OpenLayers.
return scriptLocation;});if(!singleFile){var jsfiles=new Array("
var host=OpenLayers._getScriptLocation()+"lib/";for(var i=0,len=
if(docWrite){document.write(allScriptTags.join(""));}})}();OpenLe
return camelizedString;},format:function(template,context,args){:
99 var replacer=function(str,match){var replacement;var subs=match.s
100 replacement=replacement[subs[i]];
101 if(typeof replacement=="function"){replacement=args?replacement.s
102 if(typeof replacement=='undefined'){return'undefined';}else{retu
103 if(!String.prototype.contains){String.prototype.contains=function
104 if(!String.prototype.trim){String.prototype.trim=function(){OpenL
105 if(!String.prototype.camelize){String.prototype.camelize=functio
106 OpenLayers.Number={decimalSeparator:".",thousandsSeparator:",",li
107 return fig;},format:function(num,dec,tsep,dsep){dec=(typeof dec!=
```


Mobile App for reporting on water point status



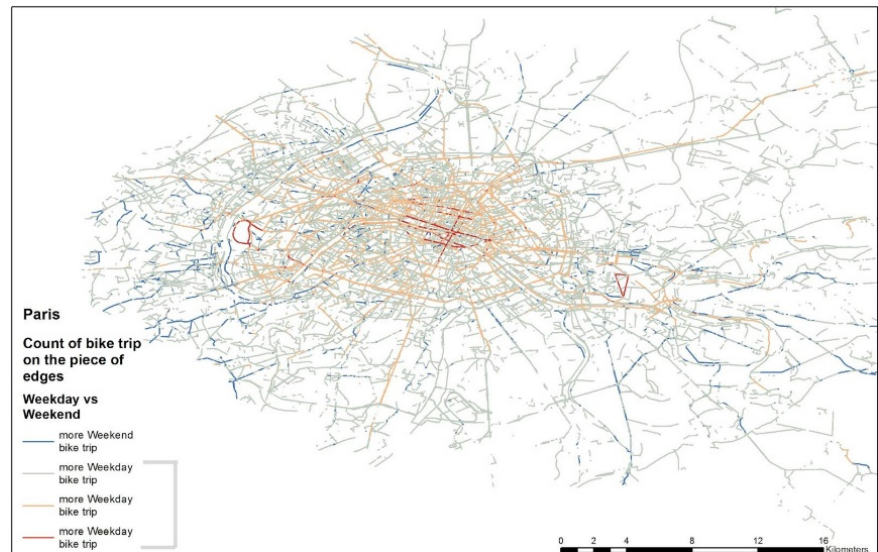
Datathon COST ENERGIC Project

Cycling the city – Paris

TEAM: Antonello Romano, Stefano Picascia, Cristina Capineri, Michela Teobaldi. LADEST LAB. - University of Siena

Background: Catchment area of public transport can be increased by using bike as first part of trip.

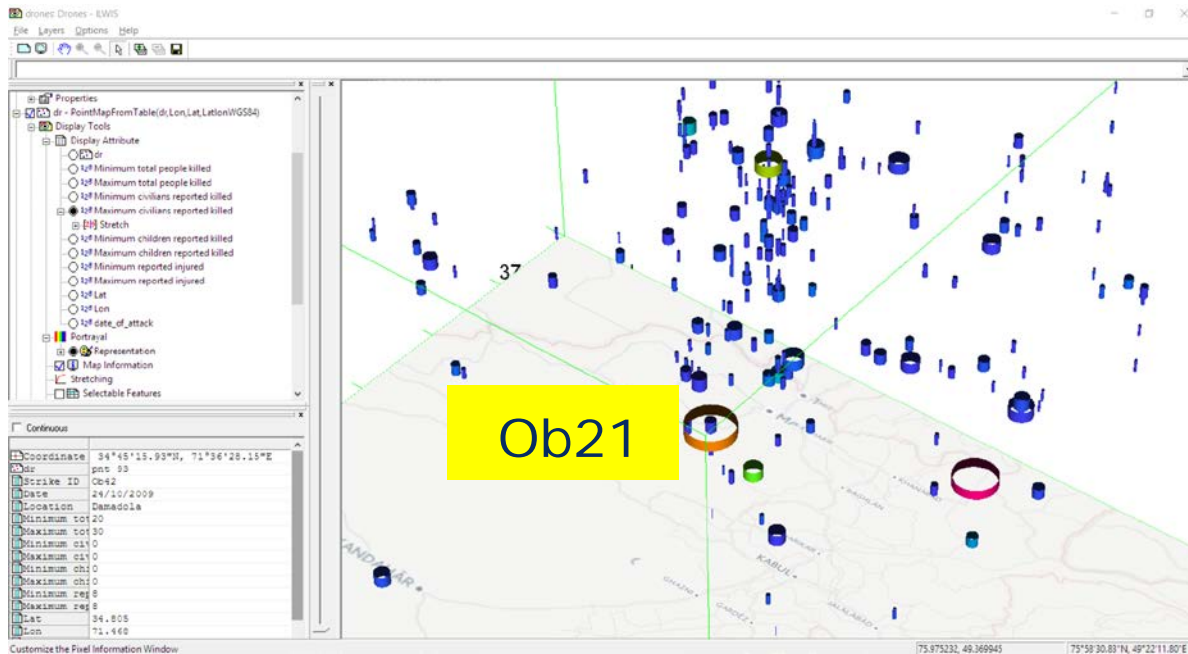
Objective: Use VGI to detect relevant cycling paths (recorded by cyclists).



Combining data and software

UX Linked Data Challenge November 3, 2016

App using Linked Data visualizer and Space-Time-Cube



Linked Data Seminar - December 2, 2016



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App development – JRC Digital Earth Lab



JOINT RESEARCH CENTRE

Digital Earth Lab

European Commission > EU Science Hub > Digital Earth Lab > Apps > SenseEurAir

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engage (28) inform (28) Citizen Science (20) Big Data (16) listen (15) environment (12) interoperability (11) support (10) GEOSS (9) Open data (8) data management (8) biodiversity (8) More

Developed by: European Union Apps

[Documentation](#) [Webpage](#) [Open Data](#) [App Download](#) [Open Source Software](#)

Documentation

 [Programmer's Manual](#)
 [Software Architecture Documentation](#)

App Information



This app enables the general public (amateurs or professionals) to receive information about the quality of ambient air, and notifies them in case of an exceedance of pre-set pollution thresholds. It displays data from the air sensing networks that publish their data using Sensor Observation Services compliant with the INSPIRE Directive. SenseEurAir



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EU Copernicus Masters



University Challenge



ESA Sentinel Small Sat (S³) Challenge



The DLR Environment, Energy and Health Challenge



ASTROSAT

Disaster Management Challenge by Astrosat



Big Data Big Business Challenge by CGI



Federal Ministry of Transport and Digital Infrastructure

The BMVI Earth Observation Challenge for Digital Transport Application



Copernicus Sustainable Development Challenge



Copernicus Government Challenge



Copernicus Big Data Challenge



Copernicus B2B Challenge



Copernicus Services Challenge



Copernicus Security Challenge



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Lots on health, government, ... and little on maps...

hackathon.io

FEATURED HACKATHONS

-  5 days  **Arkathon Hacking Health Valais**
finding solutions in digital health  Sierre
-  29 days  **Workers Day**
Celebrate Workers Day by hacking all day  Warszawa
-  48 days  **AngelHack Global Hackathon Series: Quito**
 Quito

Events

-  51 days ago  **#maphackathon**
Hacking the Early Modern Thames Shoreline  London
-  1435 days ago  **Government Map Hack 2.0**
 Brisbane
-  1437 days ago  **MapAction Hackathon**
 Epsom

Challenge examples for Mapping and Cadastral Agencies

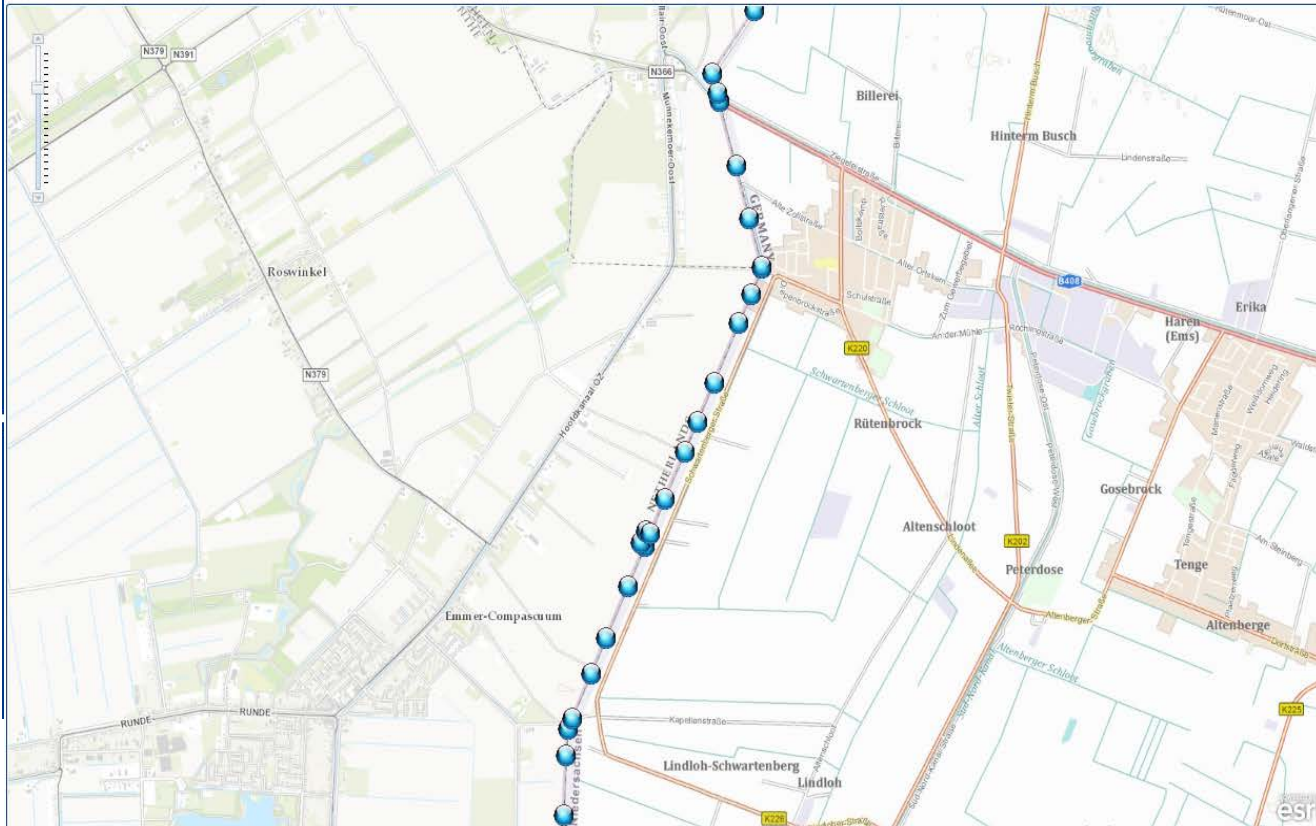
Dutch Cadastre – Boundary stones pilot



Grenspalen

| TUSSEN NEDERLAND EN DUITSLAND

Grenspalen | tussen Nederland en Duitsland



Punnummer: NS_167
Soort punt: hoofdpunt
Aantal palen: 1
Vastlegging: zandsteen
Status: undefined



grenspaal.DBO.Meldingen

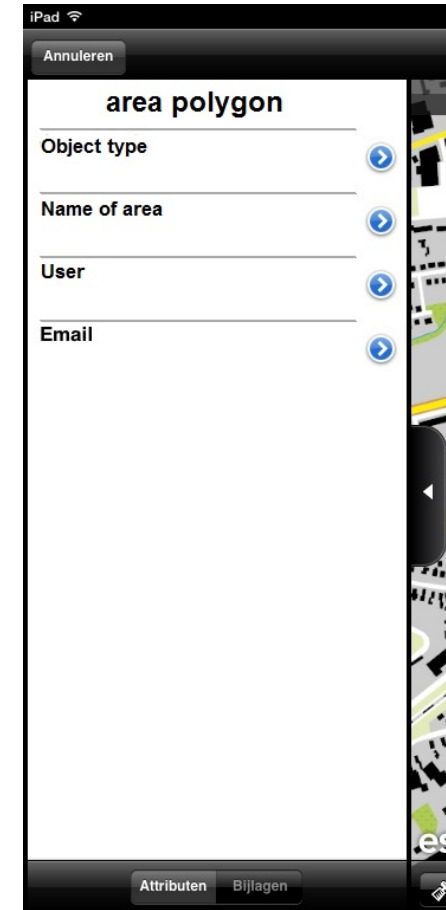
Punnummer:	NS_167
Datum melding:	16-06-2013
Email:	
Grenspaal aanwezig:	<input type="checkbox"/> Nee
Punnummer aanwezig:	<input type="checkbox"/> Nee
Verstoring:	<input type="checkbox"/> Geen Verstoring
Beschadiging:	<input type="checkbox"/> Nee
Opmerking:	

Attachments:

None

Add: Bestand kiezen Geen bestand gekozen

VGI Application for toponymic data



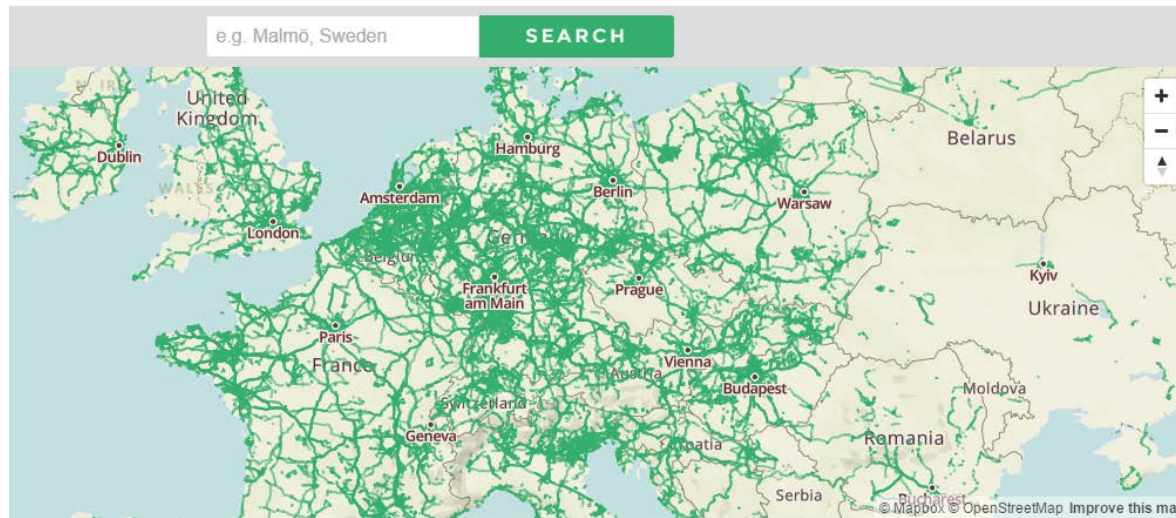
Mapillary Street Photos

MAPILLARY VIEWER

Once your photos are uploaded, they are combined with other photos on Mapillary to create a street level view of the world.



EXPLORE MAPILLARY PHOTOS ON A MAP



67,616,110 photos 1,616,120.5 kilometers

OpenStreetMap Notes

Resolved note #689

Description

There's a big roundabout at this junction. The map is showing it as a crossroads

Created by [anonymous](#) about 2 years ago

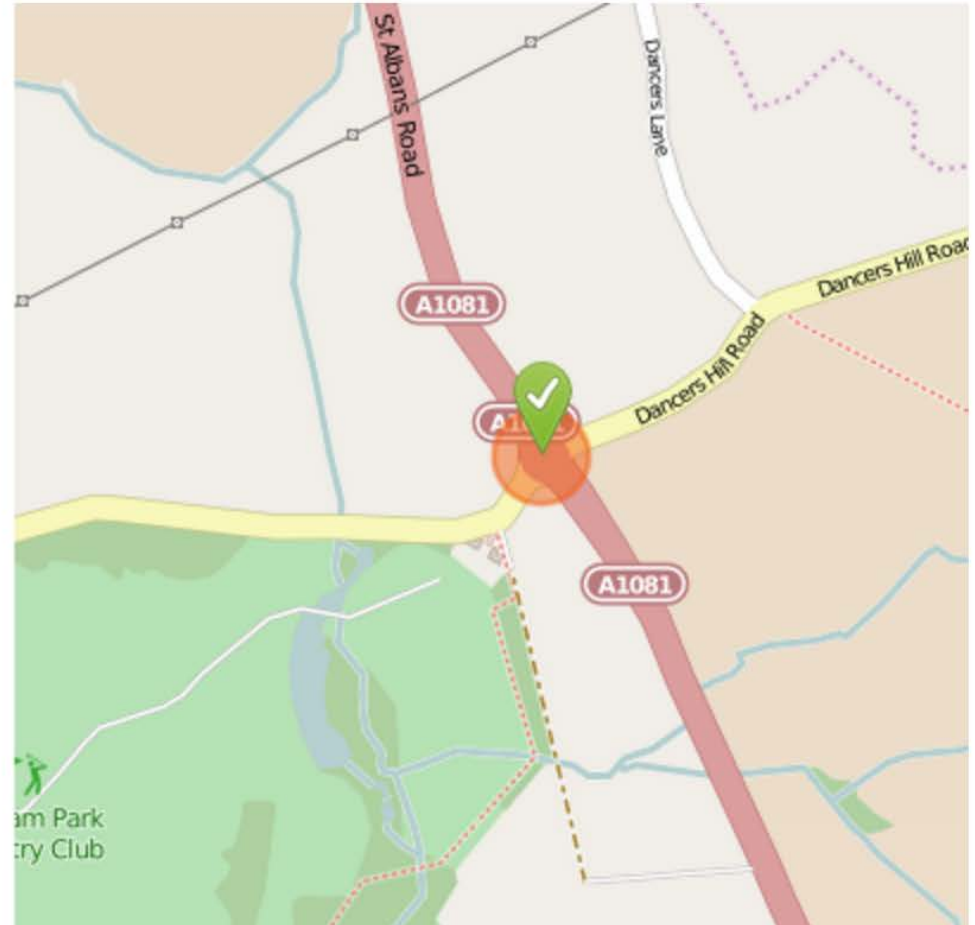
Resolved by [Harry Wood](#) about 2 years ago

This note includes comments from anonymous users which should be independently verified.

Resolved by [Harry Wood](#) about 2 years ago

Thanks for reporting this. We had this mapped as a "mini-roundabout" but you're right, it's a big roundabout. I have fixed it.

Reactivate



OpenStreetMap Tasking Manager

🏠 HOT Tasking Manager Over Nederlands ▾ Rob_Lemmens 1 ▾

#1981 - Missing Maps: Mzuzu, Malawi

Omschrijving **Instructies** Deelnemen Activiteit Statistieken

Entiteiten die in kaart moeten worden gebracht

Residential roads and buildings

Commentaar op de wijzigingen

#photosm-project-1981 #missingmaps #redcross #rodekruis #internationaldepartment

Laat, bij het opslaan van uw werk, de standaard opmerking staan, maar voeg toe wat u precies in kaart heeft gebracht, bijvoorbeeld "added buildings and a residential road".

Please click on a square to start mapping. Also read the task instructions on how to map roads and buildings.

Task

Simply trace the outline of all buildings. A building should be tagged as a Building of type Building (because we don't know the exact function of that building from satellite imagery). Make sure you SQUARE (shortcut key = 'S' in ID editor) the corners of square/rectangular buildings.

Trace any missing roads within the city. A road within the city should be tagged as Residential road.

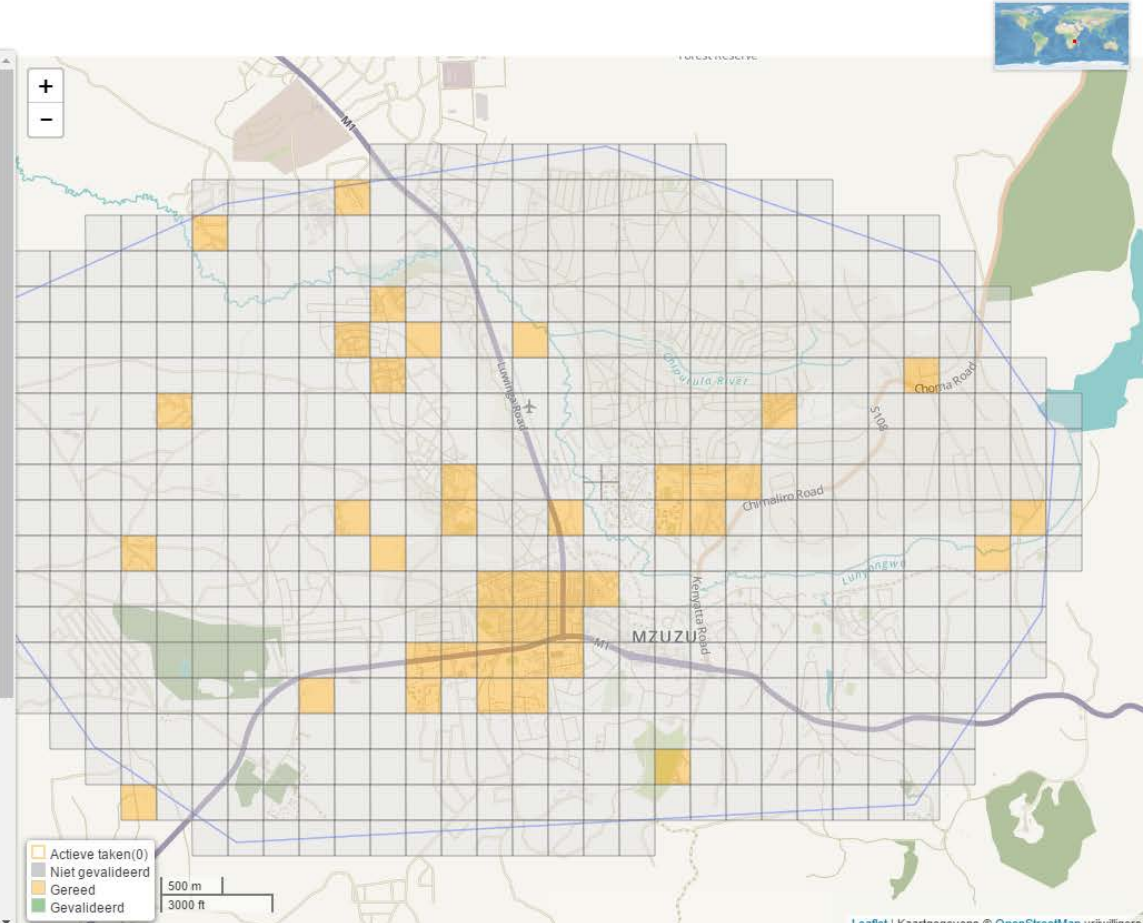
Cloud cover

There is some cloud cover on the Bing aerial imagery. Please trace whatever is possible. If you cannot finish the tile due to cloud coverage, then save your changes, mention 'cloud coverage' in the comment when you save the task, and mark the task as done.

Validation

We kindly request advanced mappers and validators to contribute to validating the work of others. This task can only be completed when all tiles have been marked as validated (green). To validate, choose a tile marked 'done' (orange) and click 'review the work'. Open it in JOSM or the ID-editor. Correct any errors such as:

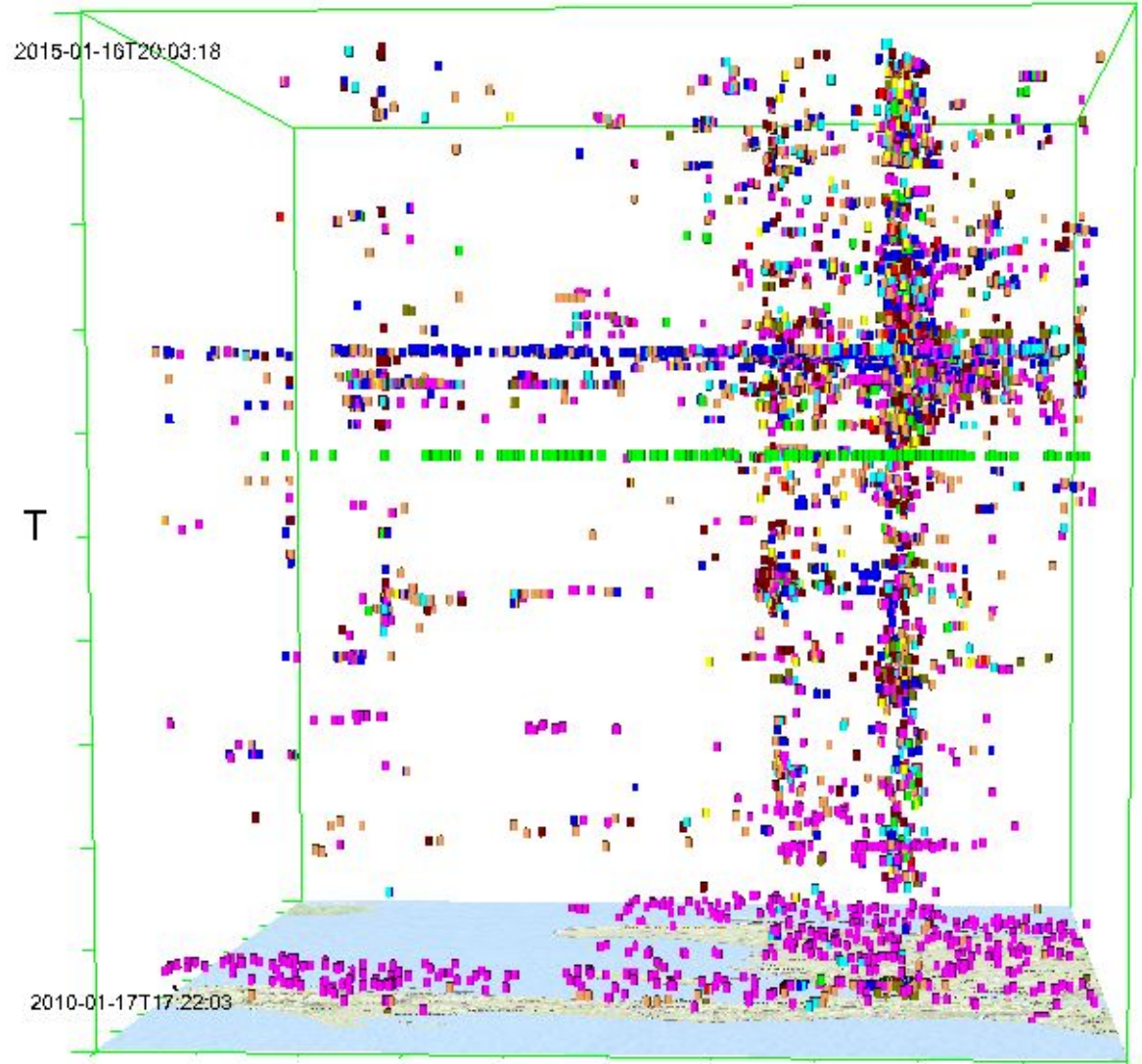
- Map missing roads and buildings.
- Correct buildings. Some buildings are not properly drawn. See if you can correct them to match the shape of the building on the satellite imagery. If a building is not squared but should be, apply squaring to the buildings (this is most easily done in JOSM where all buildings can be selected and squared with one click).



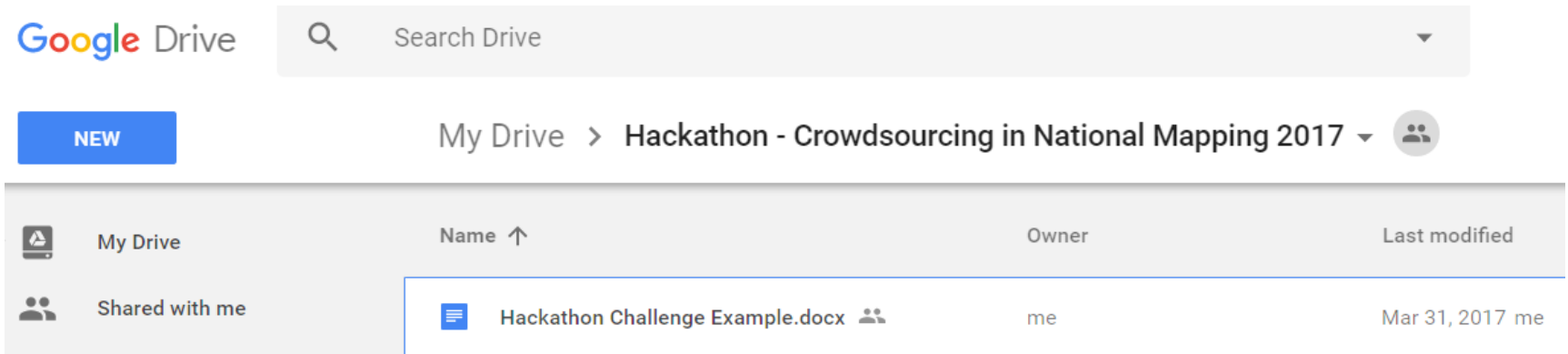
Leaflet | Kaartgegevens © OpenStreetMap vrijwilligers

OpenStreetMap edits in Space-Time-Cube

Haiti region



Hackathon – Creation of challenges



The screenshot shows the Google Drive interface. At the top left is the 'Google Drive' logo. A search bar contains the text 'Search Drive'. Below the search bar, there is a blue 'NEW' button and a breadcrumb path: 'My Drive > Hackathon - Crowdsourcing in National Mapping 2017'. A table of files is displayed with columns for 'Name', 'Owner', and 'Last modified'. One file is listed: 'Hackathon Challenge Example.docx', owned by 'me', and last modified on 'Mar 31, 2017'.

	Name ↑	Owner	Last modified
My Drive			
Shared with me	Hackathon Challenge Example.docx	me	Mar 31, 2017 me

- Title
- Authors
- Background and problem
- Objective
- Data needed
- Intended users
- Software guidelines
- Incentives for hackathon participants (Learning, Prize)

Hackathon – Creation of challenges

I know about:

Mapping and
Cadastral
agency
processes

Crowdsourcing

Application
development

Other

Your
name

Your
name

Your
name

Your
name

Your
name



Hackathon – timing

1. 20 April 2017 Workshop Leuven: First ideas on challenges and discussion on mode of operation
2. May 2017: Circulation of workshop report to NMCAAs, invitation of additional ideas
3. June 2017: Call for Hackathon
4. Sept 2017: Selection of winning team(s)
5. Oct/Nov/Dec 2017: Presentation of results at EuroSDR meeting

Expected hackathon output

- A short report containing:
 - General working of your application
 - Justification of the originality and novelty of your approach
 - A description of the data and methods and external sources you used (with links to these such that your work can be reproduced)
 - An explanation of the obstacles encountered in carrying out the hackathon, recommendations for further work.
- A 2 minute video pitch presenting your application

Judging criteria

- Overall quality of the entry to the hackathon
- Originality and novelty of the approach taken
- Quality of the description of the data and tools used, especially with respect to reproducibility
- Soundness of the approach taken
- Potential scientific, societal and policy impacts of the results
- Quality and engagement in the video pitch

Hack-a-LOD

De hackathon met LOD

[Verslag](#) [Tracks & Challenges](#) [Deelnemers en resultaten](#) [Data](#) [Nieuws](#) [Prijzen & Jury](#) [Aanmelden](#)
[Praktische info](#) [Organisatie & Contact](#) [FAQ](#) [Side Event](#) [Symposium 'Een Werk van Erfgoeddata'](#)

Hack-a-LOD 2016

De hackathon met Linked Open Erfgoed Data

VERSLAG HACK-A-LOD 2016

HACK-A-LOD
2016

