OSM Daten zu Papier bringen

Hartmut Holzgraefe

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SOTM 2018 - Jul 29, 2018
Who am I?

- Hartmut Holzgraefe
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- Hartmut Holzgraefe
- from Bielefeld, Germany
Who am I?

• Hartmut Holzgraefe
• from Bielefeld, Germany
• studied electric engineering and computer science
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- studied electric engineering and computer science
- OpenStreetMapper since 2007
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- from Bielefeld, Germany
- studied electric engineering and computer science
- OpenStreetMapper since 2007
- Datenbank Support Engineer for MariaDB Corp. (and prev. MySQL, Sun, Oracle, SkySQL)
Motivation

I like to have a city map in my flat
Motivation

I’ve got a large Printer

[Image of a printer printing a map]
Motivation

Over the last years I created neighbourhood plans for social facilites and refugee shelters
Lets just print a screen shot!
Lets just print a screen shot!

- Only works up to a certain paper size
Let's just print a screen shot!

- Only works up to a certain paper size
- ... unless you have a **very** high resolution screen
Let's try Plan B ...
So let's start Plan C ...
Welcome to MapOSSMatic!

MapOSSMatic is a free software web service that allows you to generate maps of cities using OpenStreetMap data. The generated maps are available in PNG, PDF and SVG formats and are ready to be printed.

As the data used to generate maps is coming from OpenStreetMap, you can freely reuse, sell, or modify the generated maps under the terms of the OpenStreetMap license.

Donation

You can donate to help us improve the service. See our donation page for more information on how donations are processed and how they help us keep MapOSSMatic free (and ad-free).
Passau mehrseitig
My own MapOSMatic instance

http://maposmatic.osm-baustelle.de/

Willkommen bei MapOSMatic!

MapOSMatic ist ein freier Webservice. Er macht es Ihnen möglich, Stadtpläne unter Benutzung der OpenStreetMap-Daten zu generieren. Die erzeugten Stadtpläne werden in den Formaten PNG, PDF und SVG druckfertig zur Verfügung gestellt.

Da OpenStreetMap-Daten benutzt werden, um die Stadtpläne zu erzeugen, dürfen Sie diese Pläne entsprechend den Bedingungen der OpenStreetMap-Lizenz benutzen, verkaufen und verändern.
Select area

Generate your own map

City search  Geographic area  GPX track  Umap data file
Select city boundary

Generate your own map

City search
Geographic area

Passau

Passau, Lower Bavaria, Bavaria, Germany
Passau, Lower Bavaria, Bavaria, Germany
Passau, Hermagor, Carinthia, Austria

Geographic area selection
Start by choosing the city or geographic area you want to render. Suggestions will appear as you start typing. If you can't find the city you want, or if you prefer to choose the exact area you want to render yourself, select the Geographic area tab and use the mini-map to set the limits of the rendered area.
GPX import
GPX Ergebnis
UMAP exportieren

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UMAP importieren

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Generate your own map

Layout

- Full-page layout without street index
- Full-page layout with the street index at the bottom
- Full-page layout with the street index on the side
- Multi-page layout

Map layout

The map layout determines how the map and the index are rendered. The Multi-page layout produces a booklet very suitable for printing and binding.
Map styles

Generate your own map

Stylesheet

- Current CartoCSS OSM style
- Current CartoCSS OSM style without streetnames
- Monochrome version of CartoCSS OSM
- The Maposmatic printable stylesheet
- HikeBikeMap style
- HOT Humanitarian style
- MapQuest Europe stylesheet
- CartoOSM based German style
- French OSM style
- Stripped down CartoCSS OSM style
- OpenTopoMap
- Mapbox OSM Bright style
- Open River Boat Map
- Plstemap
- Veloroad by Ilya Zverev
- Mapbox Pencil Style
- Mapbox Space Station Style
- Blossom style by Steffen Kühne
- Empty basemap for overlay testing

Map stylesheet

The map stylesheet determines the style and appearance of the map itself. Note that the stylesheet also drives what details will be visible on the map.
Generate your own map

Overlays

- height contour lines
- Fire Hydrant Overlay
- MaxSpeed Overlay
- Way Marked Trails - Hiking
- Way Marked Trails - Cycling
- Way Marked Trails - Mountain Biking
- Way Marked Trails - Riding
- Way Marked Trails - Skating
- Way Marked Trails - Slopes
- Golf course detail overlay
- Surveillance Cameras
- ptmap Public Transport Overlay
- Schwarz-Plan Overlay
- Scale bar

Map overlays
Overlays render extra objects on top of the chosen base style. Multiple overlays can be selected to add different kinds of additional information on top of the map.
Erzeugen Sie Ihren eigenen Plan

Papierformat

- A4 (21.0 x 29.7 cm²)
- A3 (29.7 x 42.0 cm²)
- A2 (42.0 x 59.4 cm²)
- A1 (59.4 x 84.1 cm²)
- A0 (84.1 x 118.9 cm²)
- US letter (21.6 x 27.9 cm²)
- Automatische Auswahl (9.2 x 9.2 cm²)

Papierausrichtung

- Hochkant
- Quer

Papierformat und -größe
Wählen Sie Format, Größe und Ausrichtung für Ihren Plan
Generate your own map

Map title
St. Augustin

Language
Deutschland (DE)

Your Email address (for notifications, optional)
hartmut@php.net

Summary
Location: Oldinghausen, Enger, Kreis Herford, Regierungsbezirk Detmold, North Rhine-Westphalia, Germany
Layout: Full-page layout without street index
Stylesheet: Current CartoCSS OSM style
Overlay: Surveillance Cameras
Paper format: Portrait, Din A4 (21.0 × 29.7 cm²)

Generate »

Almost there!
You’re almost ready to request to map rendering! Select the map language, eventually adjust the title of your map, and you’re good to go!
Map styles

An overview of available map styles
OSM Carto Style

Test CartoOSM (png)
French OSM Stil

Test FrenchOSM (png)
MapOSMatic Printable Style

Test Maposmatic (png)
OpenRiverBoat Stil

Test OpenRiverBoatMap (png)
Pistemap Stil

Test Pistemap (png)
Test Pencil (png)
Space Station Stil

Test Spacestation (png)
Emergency Overlay

Test FireOverlay (png)
MaxSpeed Overlay
WayMarkedTrails Overlay

Test WayMarkedHiking_Overlay (png)
Surveillance Overlay

Bielefeld Surveillance

L 783
Kronenplatz

Hartmut Holzgraefe (OpenStreetMap)
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In the last overlay we could see circles and circle segments.
Neither Mapnik nor PostGIS really support this.
So we’re drawing these directly into the cairo context of the map.
... using a rather simple plugin API.
All plugins are in the folder
ocitysmap/ocitysmap/layout/render_plugins
A plugin needs to implement exactly one function: def render(renderer, ctx):
renderer is an OcitysMap renderer object
ctx is a cairo graphics context
Neighbourhood plans

Siegfriedplatz

Nahverkehr
- Weststraße C-4
- Friedrichstraße H-3

Gesundheit
- Krankenhaus F-9
- Zahnarzt F-1
Umgebungsplan-Frontend

http://get-maps.org/
Running your own instance
Own instance – why?
Tweaking your own private stylesheets, esp. overlays
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Work offline
Own instance – why?

- Tweaking your own private stylesheets, esp. overlays
- Work offline
- Keep your results private
Own instance – why?

- Tweaking your own private stylesheets, esp. overlays
- Work offline
- Keep your results private
- Work on new features or fixing bugs
Requirements

- Mapnik
Requirements

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- Mapnik Stylesheets
Requirements

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- Extra data for:
Requirements

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- Extra data for:
  - Coast lines
Requirements

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  - Coast lines
  - Elevation data
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- A local webserver
- ...
That’s a lot ...

Wouldn’t it be nice if this somehow worked “out of the box” already?
git clone https://github.com/hholzgra/maposmatic-vagrant

cd maposmatic-vagrant

wget -o data.osm.pbf http://download.geofabrik.de/...

vagrant up
Where to go from here ...?
What I’ve learned
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- Tools to make it possible exist
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- Tools to make it possible exist
- A web frontend seems to ease things a lot
- Getting there took more time than expected
- ... and was frustrating at times
- ... but succeeded in the end
Questions? Suggestions? Wishes?
Contact  hartmut@php.net

My MapOSMatic Instance  http://maposmatic.osm-baustelle.de/

Neighbourhood plans  http://umgebungsplaene.osm-baustelle.de/

Github Projects  maposmatic web interface
https://github.com/hholzgra/maposmatic

maposmatic render script
https://github.com/hholzgra/ocitysmap

maposmatic vagrant VM  https://github.com/hholzgra/maposmatic-vagrant