



# TileMill

*Rendu cartographique personnalisé avec CartoCSS*

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# Qu'est-ce que TileMill ?

- Un éditeur interactif de feuilles de style CartoCSS pour Mapnik
- Une interface graphique
- Un générateur de tuiles intégré
- disponible pour Linux, Windows, OSX et sous licence BSD

# L'interface de TileMill

The screenshot displays the TileMill interface. On the left is a dark sidebar with icons for Editor, Projects, Manual, Plugins, and Settings. The main area is split into two panes. The left pane shows a map of Washington, DC, with a legend in the bottom right corner. The legend includes: Motorways (red line), Main roads (orange line), Other roads (yellow line), Bike paths (blue line), Foot paths (green line), Forest (light green area), and Water (blue area). The map is zoomed to level 13. The right pane is the 'Open Streets, DC' editor, titled 'Editeur CartoCSS'. It contains a code editor with the following content:

```
1 /*****  
2  
3 Open Streets, DC  
4 =====  
5  
6 *An example of street-level map design.*  
7  
8 Data used by this map is © OpenStreetMap contributors,  
9 CC-BY-SA. See <http://openstreetmap.org> for more info.  
10  
11 This map makes use of OpenStreetMap shapefile extracts  
12 provided by CloudMade at <http://downloads.cloudmade.com>.  
13 You can swap out the DC data with any other shapefiles  
14 provided by CloudMade to get a map of your area.  
15  
16 To prepare a CloudMade shapefiles zip package for TileMill,  
17 download it and run the following commands:  
18  
19 unzip your_area.shapefiles.zip  
20 cd your_area.shapefiles  
21 shapeindex *.shp  
22 for i in *.shp; do \  
23     zip `basename $i .shp` `basename $i shp`; done  
24  
25 *****/  
26  
27 /* ---- PALETTE ---- */  
28  
29 @water:#c0d8ff;  
30 @forest:#cea;  
31 @land:#fff;  
32  
33 Map {  
34     background-color:@land;  
35 }  
36  
37 .natural[TYPE='water'],  
38 .water {  
39     polygon-fill:@water;
```

At the bottom of the editor, there is a color palette with various colored squares.

# CartoCSS en quelques mots

- Des feuilles de styles façon "CSS" (Cascading StyleSheet)
- Lisibilité et maintenance améliorées
- Syntaxe proche des CSS utilisées par le W3C

# Avant CartoCSS... (XML)

```
<Rule>
<MaxScaleDenominator>100000</MaxScaleDenominator>
<Filter>([feature] = 'tourism_picnic_site')</Filter>
<PolygonSymbolizer fill="#ccff99" fill-opacity="0.5" />
<LineSymbolizer stroke="#666666" stroke-width="0.3" />
</Rule>
<Rule>
<MaxScaleDenominator>100000</MaxScaleDenominator>
<Filter>([feature] = 'tourism_camp_site')</Filter>
<PolygonSymbolizer fill="#ccff99" fill-opacity="0.5" />
<LineSymbolizer stroke="#666666" stroke-width="0.3" />
</Rule>
<Rule>
<MaxScaleDenominator>100000</MaxScaleDenominator>
<Filter>([feature] = 'tourism_caravan_site')</Filter>
<PolygonSymbolizer fill="#ccff99" fill-opacity="0.5" />
<LineSymbolizer stroke="#666666" stroke-width="0.3" />
</Rule>
```

# Avec CartoCSS...

```
[feature = 'tourism_camp_site'],  
[feature = 'tourism_caravan_site'],  
[feature = 'tourism_picnic_site'] {  
  [zoom >= 13] {  
    polygon-fill: #ccff99;  
    polygon-opacity: 0.5;  
    line-color: #666;  
    line-width: 0.3;  
  }  
}
```

# Le duo TileMill / Mapnik

TileMill s'appuie sur Mapnik:

- nombreuses sources de données possibles
  - base de données: PostGIS, SQLite
  - fichiers: SHP, CSV, GeoJSON, KML
  - raster: geotiff
- anti-aliasing de qualité (AGG)
- rendu vectoriel en SVG, PDF ou bitmap (PNG, JPEG, MbTiles)

Quelques exemples...

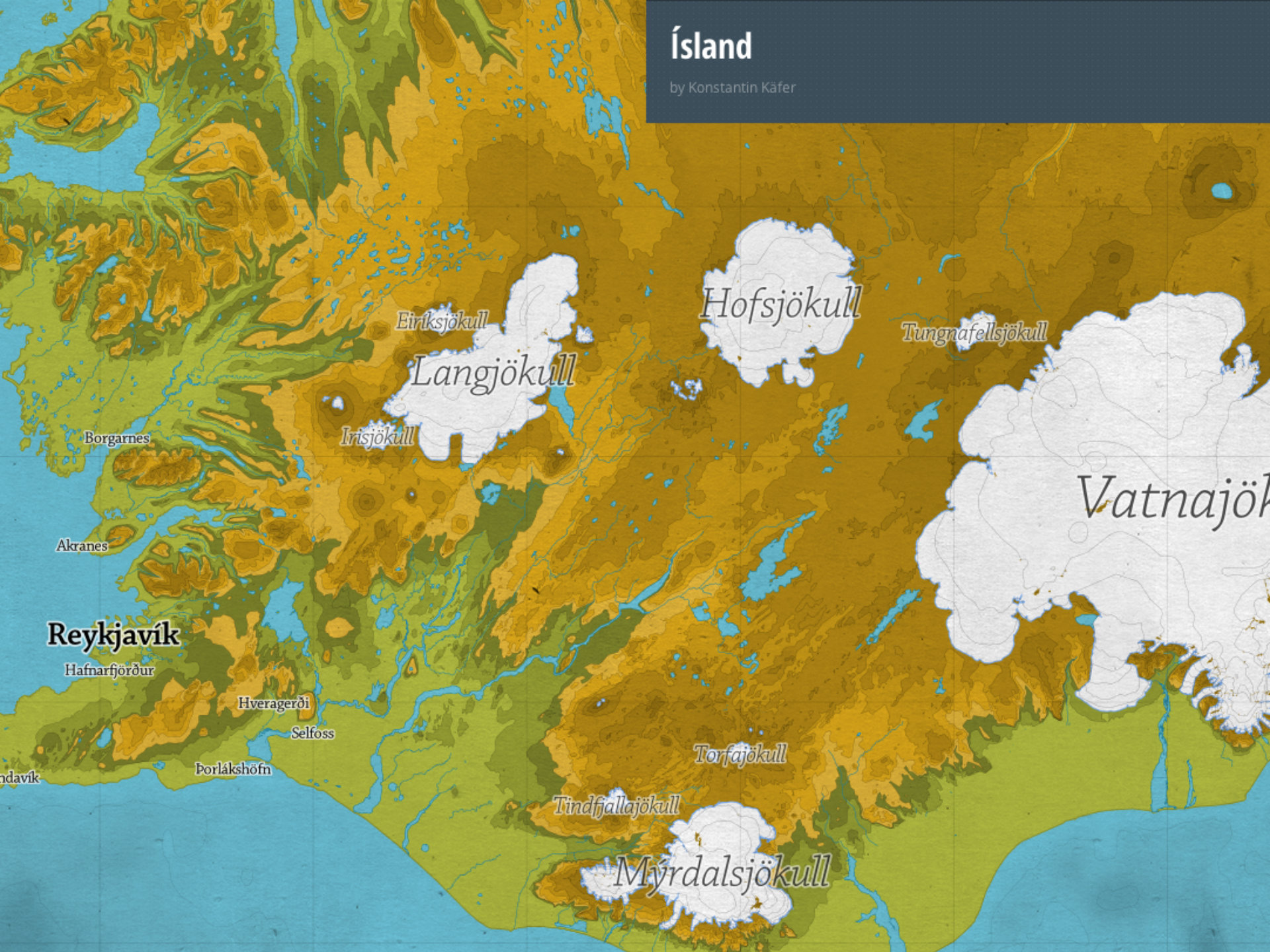
The background features a light gray, stylized illustration of a hand holding a pen, positioned as if writing. The hand and pen are rendered in a soft, painterly style. Scattered throughout the background are various ink splatters and blotches of different sizes and shapes. In the bottom right corner, there is a faint, circular stamp-like shape, possibly representing a seal or a mark.





# Ísland

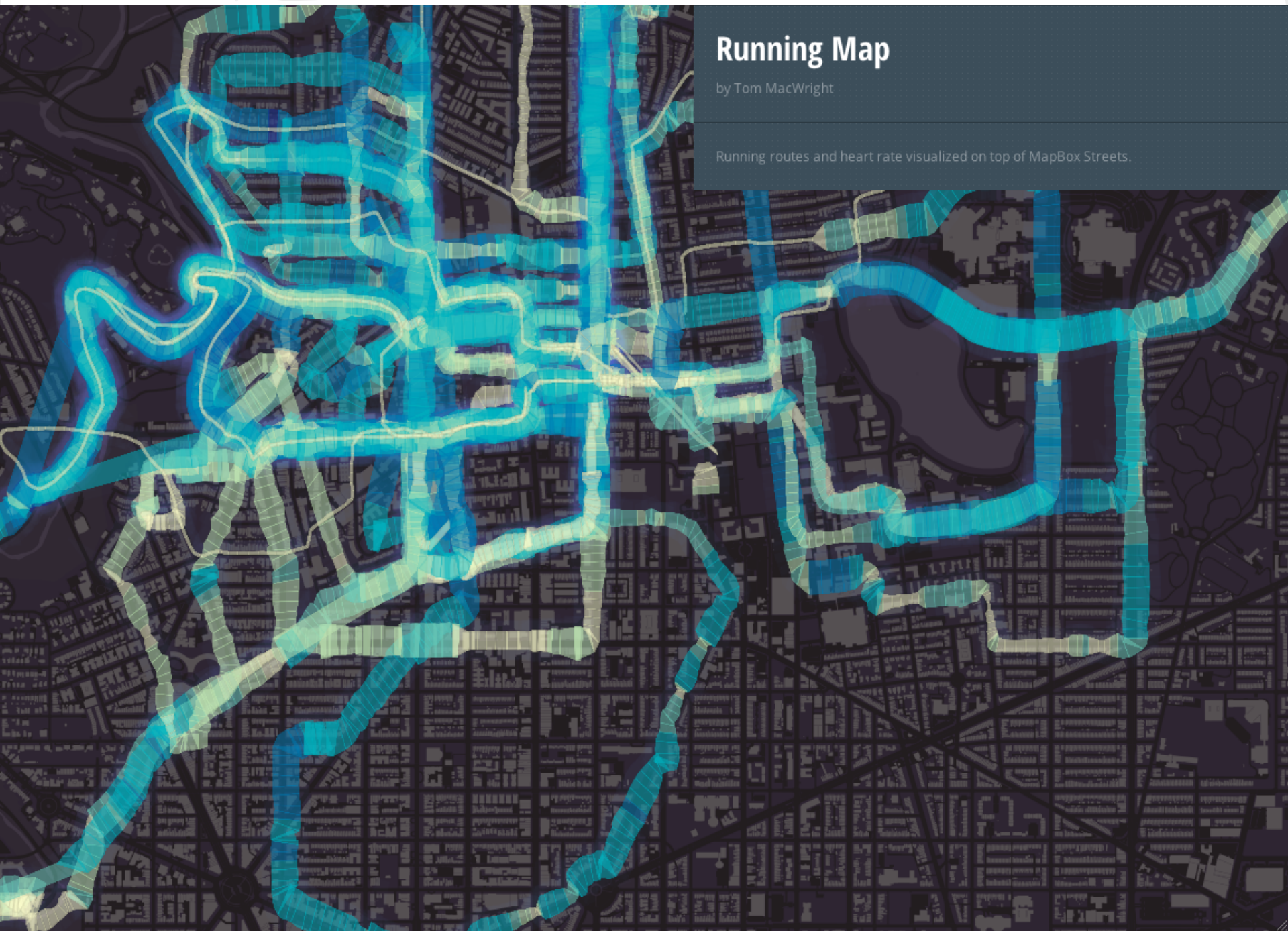
by Konstantin Käfer



# Running Map

by Tom MacWright

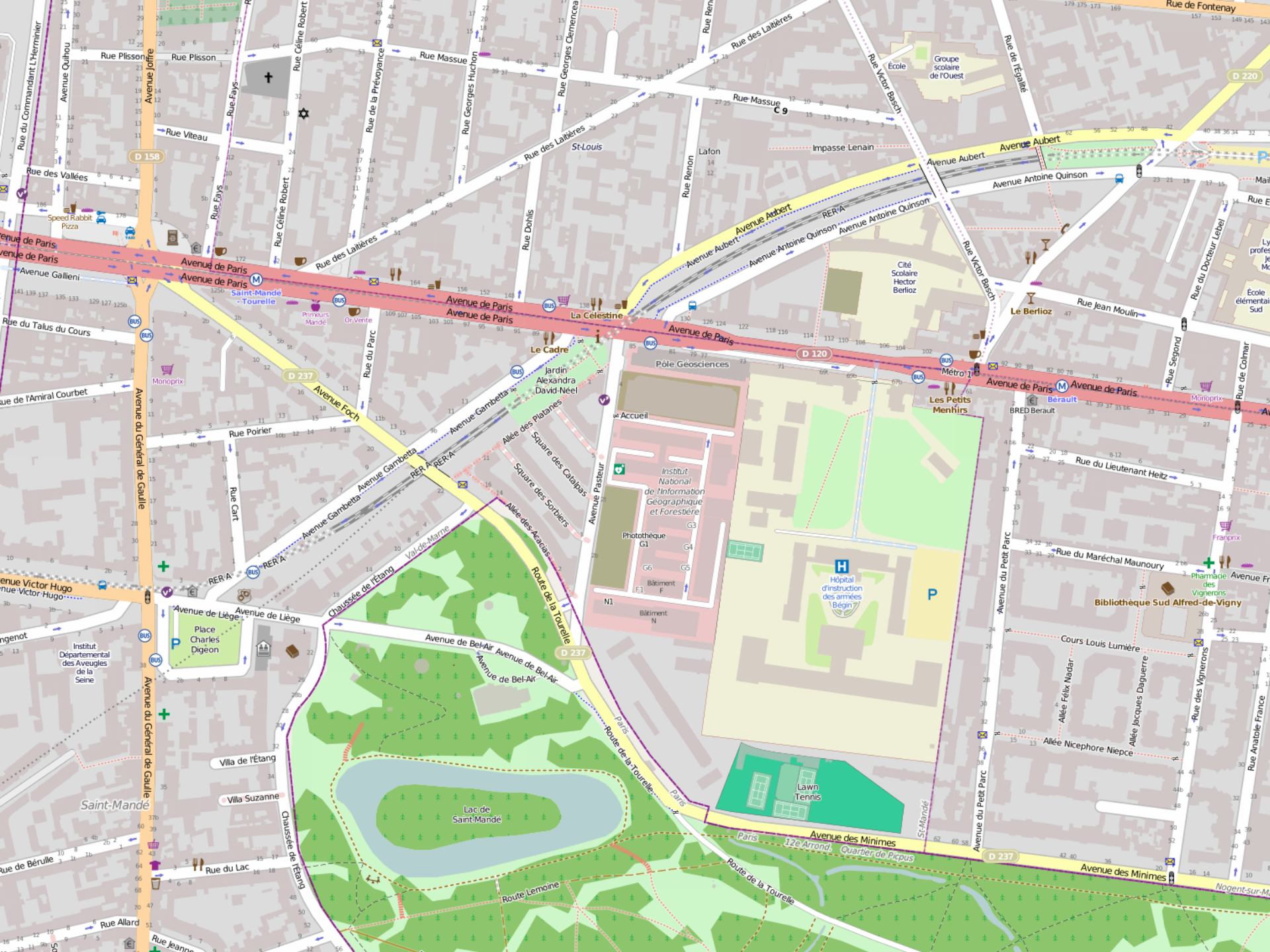
Running routes and heart rate visualized on top of MapBox Streets.



# Pirate Map

by AJ Ashton





Démo !



# Exemple: rendu "OSM-FR"

Cahier des charges :

- améliorer ce rendu :
  - l'adapter à la culture et aux usages hexagonaux
  - mieux hiérarchiser les informations
  - offrir de nouveaux niveaux de zoom
  - rendre visible certaines informations manquantes
- conserver le "look and feel" du rendu OSM car celui-ci est connu et reconnu

# "openstreetmap-cartocss"

- portage en CartoCSS de la feuille de style XML réalisé par Andy Alan

[github.com/gravitystorm/openstreetmap-carto](https://github.com/gravitystorm/openstreetmap-carto)

- fork de cette feuille de style

[github.com/cquest/osmfr-cartocss](https://github.com/cquest/osmfr-cartocss)



# PostGIS + TileMill

Le rendu des passages piéton :

- Calcul de l'orientation par PostGIS

Le rendu des terrains de sport :

- Calcul de l'orientation et des dimensions par PostGIS

# Exemple des passages piétons

## Calcul de l'orientation : angle et angle\_diff

```
(select osm_id, ST_GeometryN(st_union(way),1) as way, max(angle)-min(angle) as
angle_diff, avg(angle) as angle from
  (select p.osm_id, p.way as way, cast(90+degrees(ST_Azimuth
(st_line_interpolate_point(ST_Intersection(st_buffer(p.way,0.1), h.way),0),
st_line_interpolate_point(ST_Intersection(st_buffer(p.way,0.1), h.way),1))) as
integer) % 180 as angle
  from planet_osm_point p join planet_osm_line h on (st_intersects(p.way,h.way)
and h.highway is not null and h.highway not in
('footway','cycleway','path','pedestrian','steps','service'))
  where (p.highway='crossing' or p.tags->'crossing' in
('traffic_signals','uncontrolled')) and p.way && !bbox!) as crossing group by
osm_id )
as highway_crossings
```

# Exemple des passages piétons

Et feuille de style CartoCSS :

```
#highway_crossings {  
  [zoom>=19][angle_diff<30]  
  {  
    point-file: url('symbols/fr/crossing2.png');  
    point-transform: 'rotate([angle])';  
  }  
  [zoom>=19][angle_diff>=30]  
  {  
    point-file: url('symbols/fr/crossing.png');  
  }  
}
```

# Visite guidée...

A voir sur...

<http://u.osmfr.org/m/4/>

et aussi sur

<http://tile.openstreetmap.fr>

Merci à...

**MapBox**

pour avoir conçu TileMill

[mapbox.com/tilemill](http://mapbox.com/tilemill)

**Mapnik**

pour la qualité du rendu possible

[mapnik.org](http://mapnik.org)

**OpenStreetMap**

pour les données libres !

[osm.org](http://osm.org) / [osmfr.org](http://osmfr.org)