

MapCSS

CSS-like map stylesheets

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Mapnik is the great renderer but it stylesheets scares me:

- XML
- 416 Kb
- 9536 Lines of code
- Mixed declarative selectors and SQL

```
<Layer name="tracks-tunnels" status="on" srs="&osm2pgsql_projection;">
  <StyleName>tracks-tunnels</StyleName>
  <Datasource>
    <Parameter name="table">
      (select way,tracktype from &prefix;_line where highway='track' and tunnel in ('yes','true','1')) as tracks
    </Parameter>
    &datasource-settings;
  </Datasource>
</Layer>
```

Why MapCSS?

- Simple (same terms as in OSM)
- Lightweight (small files)
- Declarative (*what* instead of *how*)
- Map Styling language



How it's looks like?

```
line[highway=primary],
line[highway=secondary] {
  width: 5;
  color: #E77817;
  casing-width: 5;
  casing-color: #E77817;
  text: name;
  font-size: 12;
  text-position: line;
}
line[waterway] {
  width: 5;
  color: blue;
}
area[building] {
  fill-color: grey;
  text: addr:housenumber;
}

@import url("park.mapcss")
```



Style anatomy

```
line[highway=primary] /* select non-closed lines */
{
  width: 3;
  color: gray;
  /* Render as 3 pixels gray line */
}
```

```
area[building] /* select closed ways with and building tag */
{
  fill-color: #500; /* Polygon fill color */
}
```

```
node|z11-14[place][population>5000],
area|z11-14[place][population>1000]
{
  text: name;
}
```

Selectors

node|z1 1-14[place][population>5000],
area|z1 1-14[place][population>1000]

- Elements (node, way, relation, line, area)
- Zoom node|z14-
- Tag value [highway=primary]
- Tag presence [bridge] (any value of bridge tag)
- Range [population>50000]
- Regular expression [highway=~/^primary/]
- AND/OR chaining

Simple style

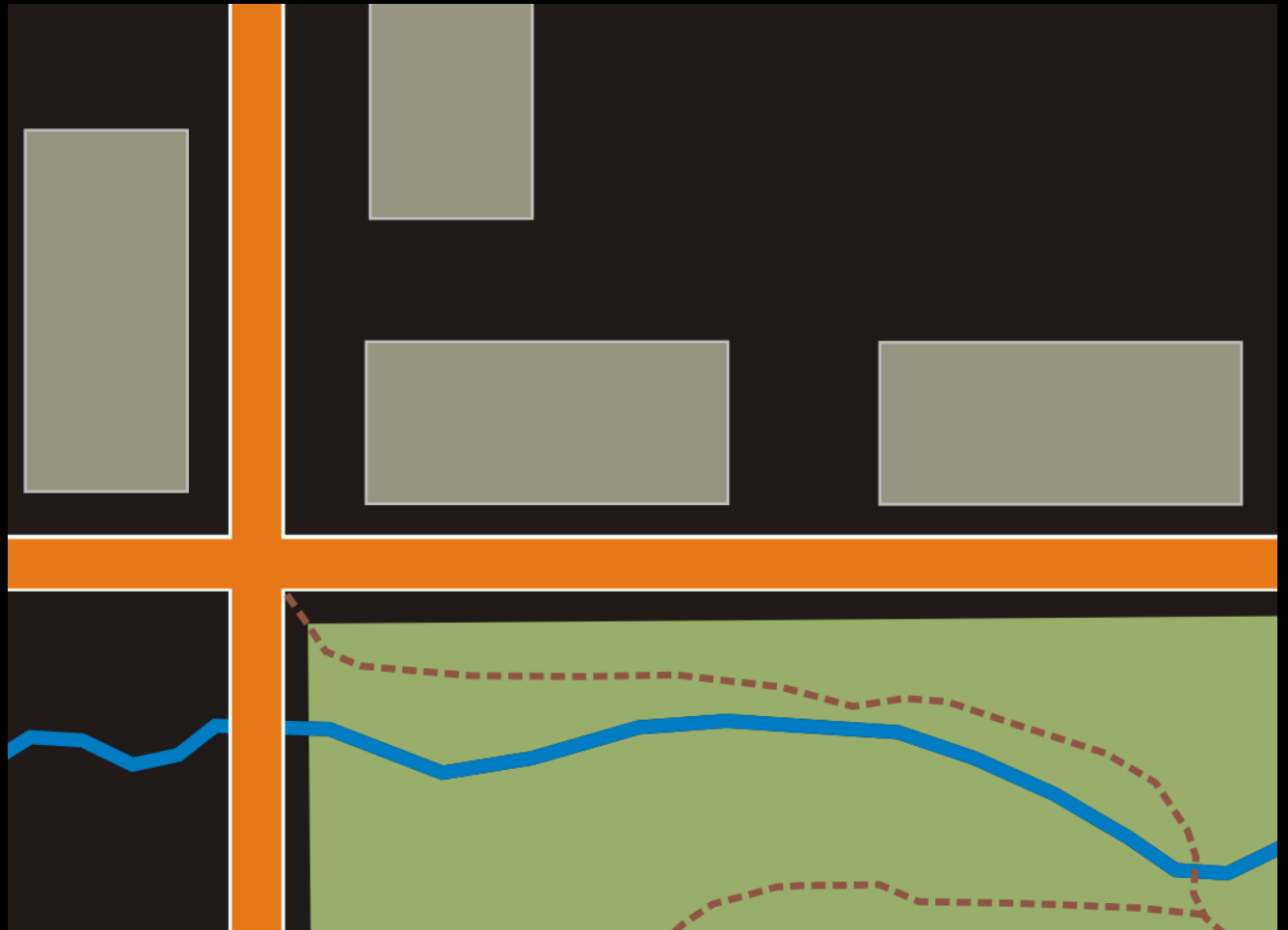
```
line[highway] {  
  color: orange;  
  width: 11;  
}  
area[building] {  
  fill-color: gray;  
}  
line[waterway] {  
  color: blue;  
  width: 3;  
}
```



Make map looks better

```
line[highway=primary] {  
  casing-color: white;  
  casing-width: 12;  
  casing-opacity: 0.5;  
}
```

```
line[highway=track] {  
  color: brown;  
  width: 1;  
  dashes: 3,3;  
}
```



Icons

```
node[highway=bus_stop] {  
  icon-image: bus_stop.png;  
}  
node[highway=traffic_lights] {  
  icon-image: url("http://example.com/traffic_lights.png");  
}
```



Labels

```
node[name] {  
  text: name;  
  font-size: 20;  
  text-color: grey;  
  text-halo-color: lightgrey;  
  text-halo-radius: 1px;  
}  
area[addr:housenumber] {  
  text: addr:housenumber;  
  font-size: 11;  
  text-color: black;  
  text-position: center;  
}
```



Subparts

```
line[railway=tram][highway]::tram {  
  width: 1;  
  color: red;  
  z-index: 10;  
}
```



Eval is not evil

```
line[highway=service] {  
  width: eval(min(10, any(metric(tag("width")), tag("lanes") * 5)));  
}
```

- Built-in Javascript-like DSL
- Simple arithmetic operators
- Few useful functions (min, max, any, cond)
- Special metric() magic converts tag value to pixels

A silver bullet?

- No complex vector symbols
- Hard to maintain multi-scale styles
- Cannot change symbol orientation
- No tools support

How to use Map CSS

- Renderers: [Halcyon](#), [Ceyx](#), [Kothic](#), [Kothic-JS](#)
- Editors: [JOSM](#), [Potlatch 2](#)
- [Komap](#) (Mapnik style preprocessor)
- [MapCSS parser](#)

What's next?

- Current version is 0.2

● [Wiki page](#)

- Mailing list at mapcss@openstreetmap.org
- #osm IRC channel at OFTC

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Q/A

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