Büro für Geoinformatik
meggsimum

De Grote Geo Show
OSGeo.NL, 28.05.2020

The Colour and the Shape
GeoStyler rocks

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- Geospatial software-developer and -architect
- Open Source / Open Data enthusiast
- OS Core Developer: GeoExt, GeoStyler, Wegue...

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- meggsimum
- Office for Open Source geospatial services
- Loc: Palatinate - South-West of Germany
- Software concepts and development
- (Web-)GIS and SDI
- Consulting, planning, training

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Motivation

- Webbased cartographic styling is a re-occuring topic...

- Various standards for cartographic symbolisation of geodata available:

  - Official standards: OGC SLD with Filter Encoding (FE)

  - Industrial standards: e. g. Mapbox Styles

  - Project-related styling:
    e. g. QGIS or OpenLayers

- Tons of customer specific solutions

oh my god

Image source: https://tenor.com/NqaJ.gif

GeoStyler

- Ready-to-use map styling library
- ES6 & TypeScript
- React & Ant Design
- Open Architecture
  - Style format independent
  - Data format independent
- Modular UI components → fully customizable
- Development since about 2 years
- Cooperation terrestris and meggsimum
- Open Source (BSD)

Open Architecture

- Existing Parsers
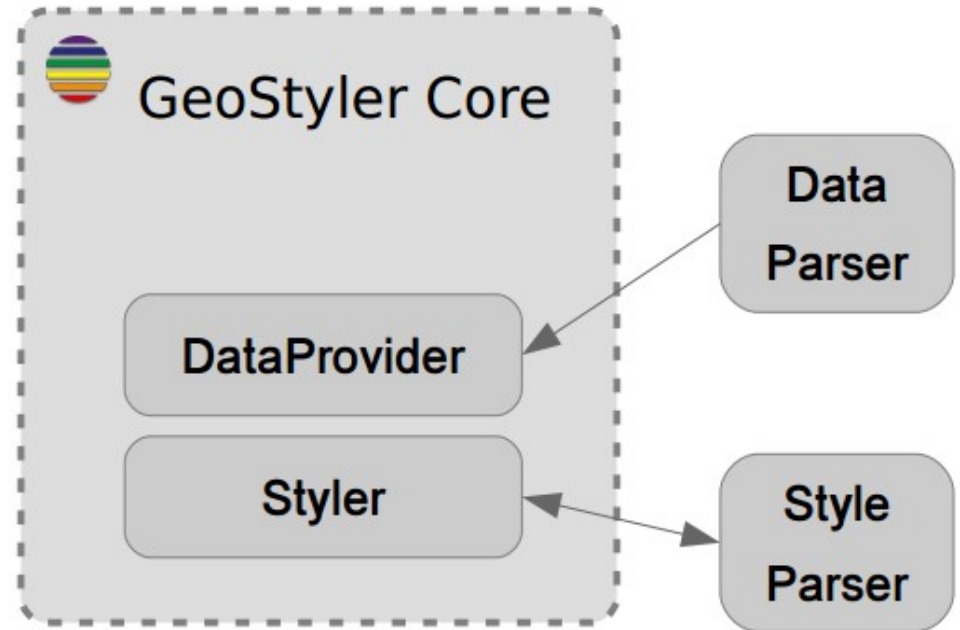 - Style
    - SLD
    - Mapbox
    - QGIS
    - OpenLayers
    - Mapfile (WIP)
  - Data
    - WFS
    - GeoJSON
    - Shapefile

Open Architecture

- Internal JSON style format
- Only internally used in GeoStyler Core
- Rulebased styles
  - Inspired by SLD and Mapbox
- One JSON-object per style
- Typed

```json
{
  "name": "Demo Style",
  "rules": [
    {
      "name": "Rule 1",
      "symbolizers": [
        {
          "kind": "Mark",
          "color": "#0E1058",
          "wellKnownName": "Triangle"
        }
      ]
    }
  ]
}
```

GeoStyler Features

- Rulebased styles (incl. Symbolizer)
- Complex filters
- Previews
- (Automatic) Classifications
- Scale ranges
- Calculation of overlapping rules

- Usage with / without UI elements
- Different layouts
- I18n (Language wrapper)

Image source: https://gph.is/1G9ILPC
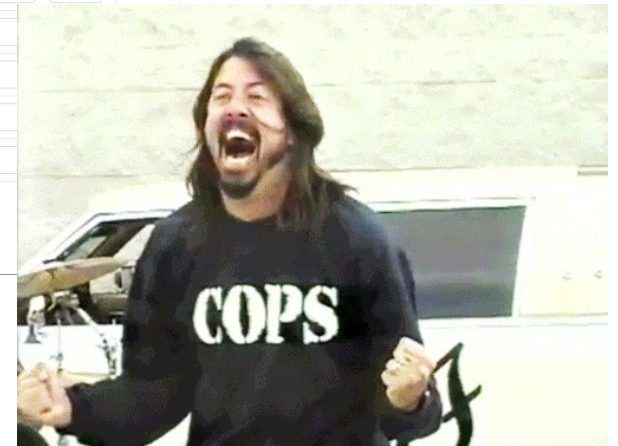
GeoStyler Demo App (geostyler.org)

Docs **npm**

GeoStyler

Language: EN DE ES | Compact: ⬤ | Symbolizer Renderer: OpenLayers SLD | Load Style: SLD Style Parser ⬇ Upload

Load Data: WFS Data Parser

Graphical Editor

Name: Demo Style

Classification

		Name	Filter	Min. Scale	Max. Scale	Σ	⊡
☐	🟥	HH	kuerzel = 'HH'			1	0
☐	🟥	NI	kuerzel = 'NI'			1	0
☐	🟧	HB	kuerzel = 'HB'			1	0
☐	🟧	NW	kuerzel = 'NW'			1	0
☐	🟧	HE	kuerzel = 'HE'			1	0
☐	🟨	RP	kuerzel = 'RP'			1	0
☐	🟨	BW	kuerzel = 'BW'			1	0
☐	🟩	BY	kuerzel = 'BY'			1	0
☐	🟩	SL	kuerzel = 'SL'			1	0
☐	🟩	BE	kuerzel = 'BE'			1	0
☐	🟦	BB	kuerzel = 'BB'			1	0
☐	🟦	MV	kuerzel = 'MV'			1	0
☐	🟦	SN	kuerzel = 'SN'			1	0

Code Editor

Format: SLD Style Parser

```
1  <?xml version="1.0" encoding="UTF-8" standalone="yes"?
   >
2  <StyledLayerDescriptor version="1.0.0"
   xsi:schemaLocation="http://www.opengis.net/sld
   StyledLayerDescriptor.xsd"
   xmlns="http://www.opengis.net/sld"
   xmlns:ogc="http://www.opengis.net/ogc"
   xmlns:xlink="http://www.w3.org/1999/xlink"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
3    <NamedLayer>
4      <Name>Demo Style</Name>
5      <UserStyle>
6        <Name>Demo Style</Name>
7        <Title>Demo Style</Title>
8        <FeatureTypeStyle>
9          <Rule>
10           <Name>HH</Name>
11           <Filter xmlns="http://www.opengis.net/ogc">
12             <PropertyIsEqualTo>
13               <PropertyName>kuerzel</PropertyName>
14               <Literal>HH</Literal>
15             </PropertyIsEqualTo>
16           </Filter>
17           <PolygonSymbolizer>
```

GeoStyler GeoServer Extension

Style Editor - tiger_roads

Edit the current style. The editor can provide syntax highlighting and automatic formatting. Click on the "validate" button to verify the style is a valid SLD document.

| Data | Publishing | Layer Preview | Layer Attributes | GeoStyler |

Preview on layer: tiger:tiger_roads

Name: area landmarks

			Name	Filter	Min. Scale	Max. Scale
☐	∧ ∨	╱			1:32000	
☐	∧ ∨	╱				1:32000
☐	∧ ∨	╱				1:32000
☐	∧ ∨	mple Fea				1:32000

+ Add Rule   Clone Rules   − Remove Rules   Multi edit

Font 12pt ▾ Height 300px ▾

```xml
1  <?xml version="1.0" encoding="UTF-8"?>
2  <StyledLayerDescriptor version="1.0.0"
3      xsi:schemaLocation="http://www.opengis.net/sld StyledLayerDescriptor.xsd"
4      xmlns="http://www.opengis.net/sld" xmlns:ogc="http://www.opengis.net/ogc"
5      xmlns:xlink="http://www.w3.org/1999/xlink"
6      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
7  <NamedLayer> <Name> area landmarks </Name>
8      <UserStyle>
9          <FeatureTypeStyle>
10             <FeatureTypeName>Feature</FeatureTypeName>
11             <Rule>
12                 <MinScaleDenominator>32000</MinScaleDenominator>
13                 <LineSymbolizer>
14                     <Stroke>
15                         <CssParameter name="stroke">
16                             <ogc:Literal>#666666</ogc:Literal>
17                         </CssParameter>
18                         <CssParameter name="stroke-width">
19                             <ogc:Literal>2</ogc:Literal>
20                         </CssParameter>
21                     </Stroke>
22                 </LineSymbolizer>
23             </Rule>
24
25             <Rule> <!-- thick line drawn first-->
```

Validate   Apply   Submit   Cancel

Ressources

- FOSSGIS / FOSS4G talks: https://media.ccc.de/search/?q=geoStyler
- Demo client: https://geostyler.org
- Code: https://github.com/geostyler
- Docs: https://geostyler.github.io/geostyler/
- npm: https://www.npmjs.com/package/geostyler
- Beginner workshop (in the make): https://github.com/geostyler/geostyler-beginner-workshop
- Advanced workshop: https://github.com/geostyler/geostyler-workshop

Probeer het eens en word lid van de GeoStyler-gemeenschap!

Dank u well !!!

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