GeoStyler - Support for ArcGIS and other new Features

Jan Suleiman, terrestris GmbH & Co. KG

FOSS4G Europe 2025, Mostar, Bosnia-Herzegovina

Jan Suleiman

✉ suleiman@terrestris.de
  🐙 @jansule

- M.Sc. Geoinformatics
- Full-Stack Developer @terrestris, Bonn, Germany
- OSGeo Charter Member
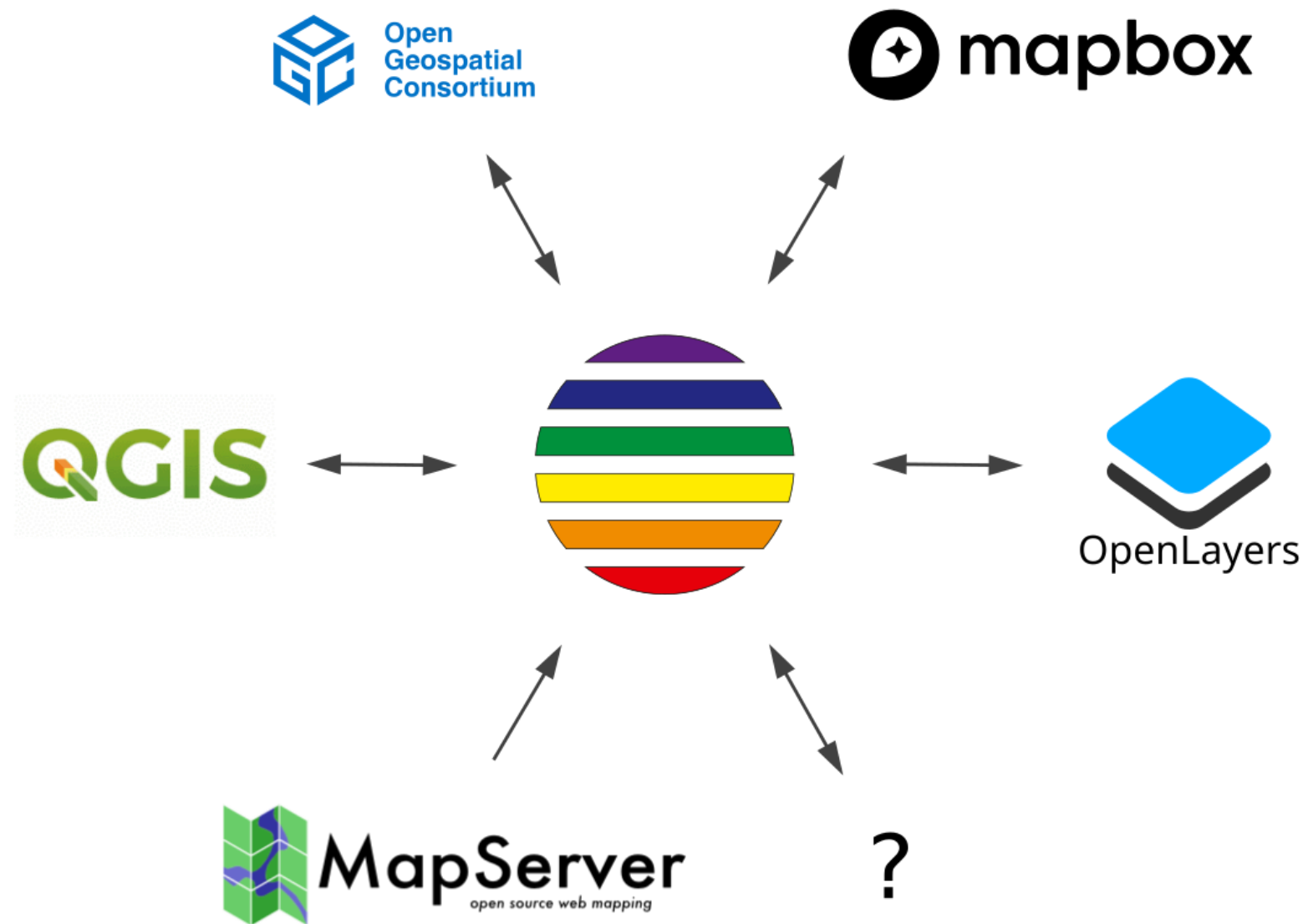- GeoStyler Core Developer
- Superset Plugin Developer

Content

1. Support for ArcGIS
2. GeoStyler Rest + OGC API Styles
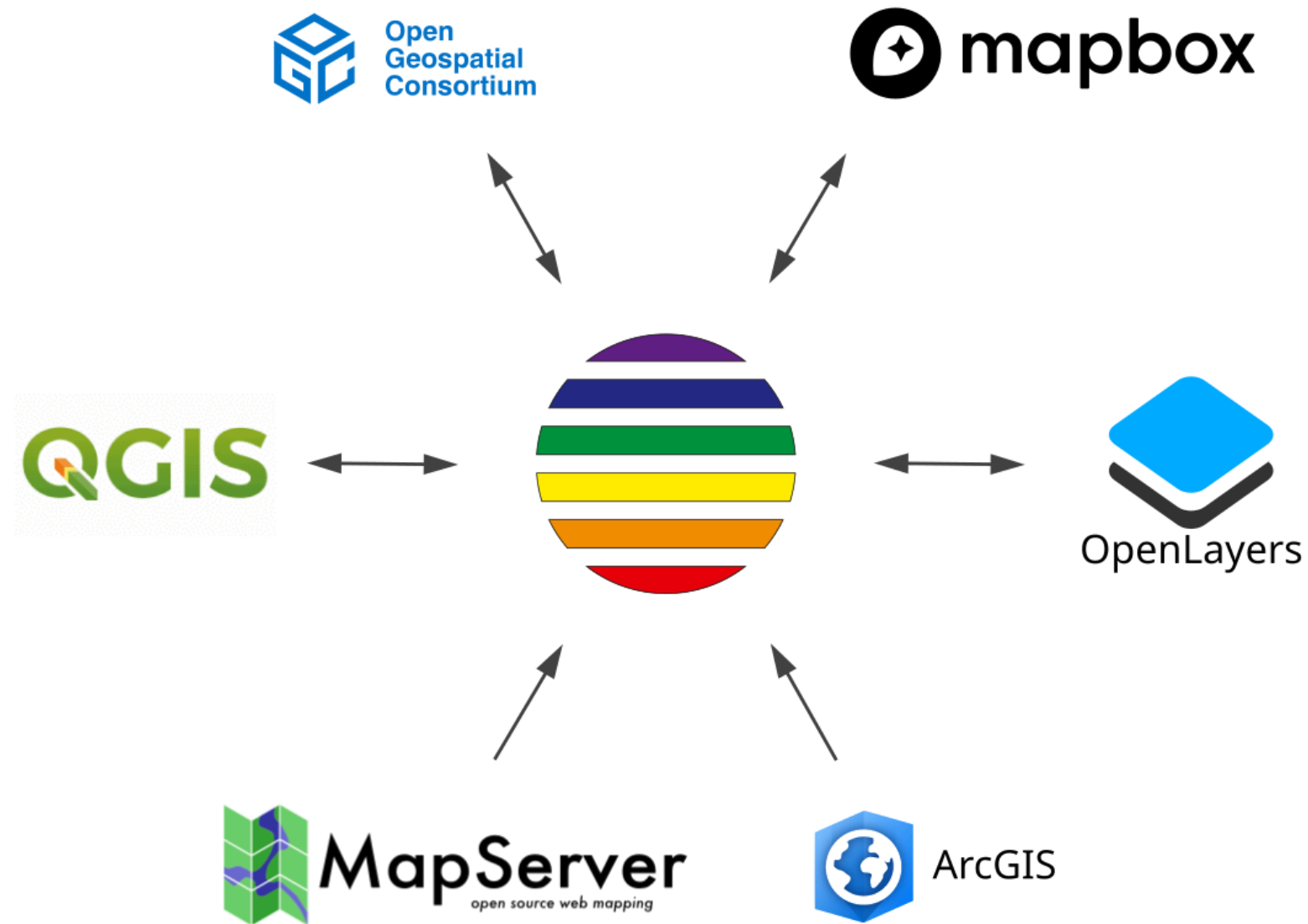3. OpenLayers Flat Styles
4. Other news

Link to slides:
https://terrestris.github.io/foss4g-e-2025/talks/2025-07-18-suleiman-geostyler.html
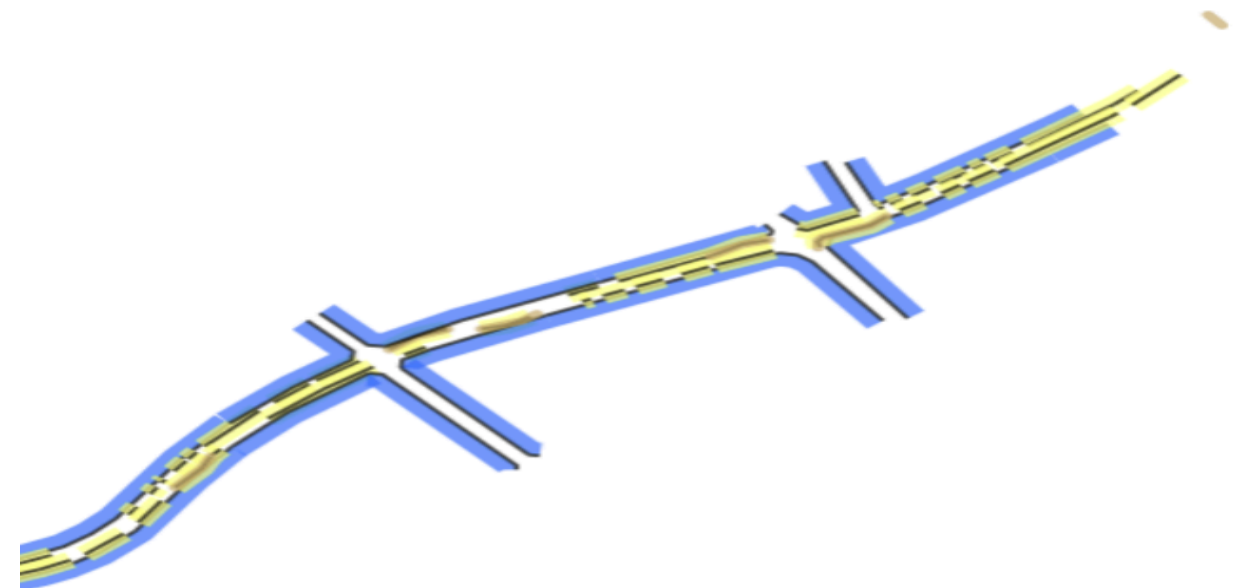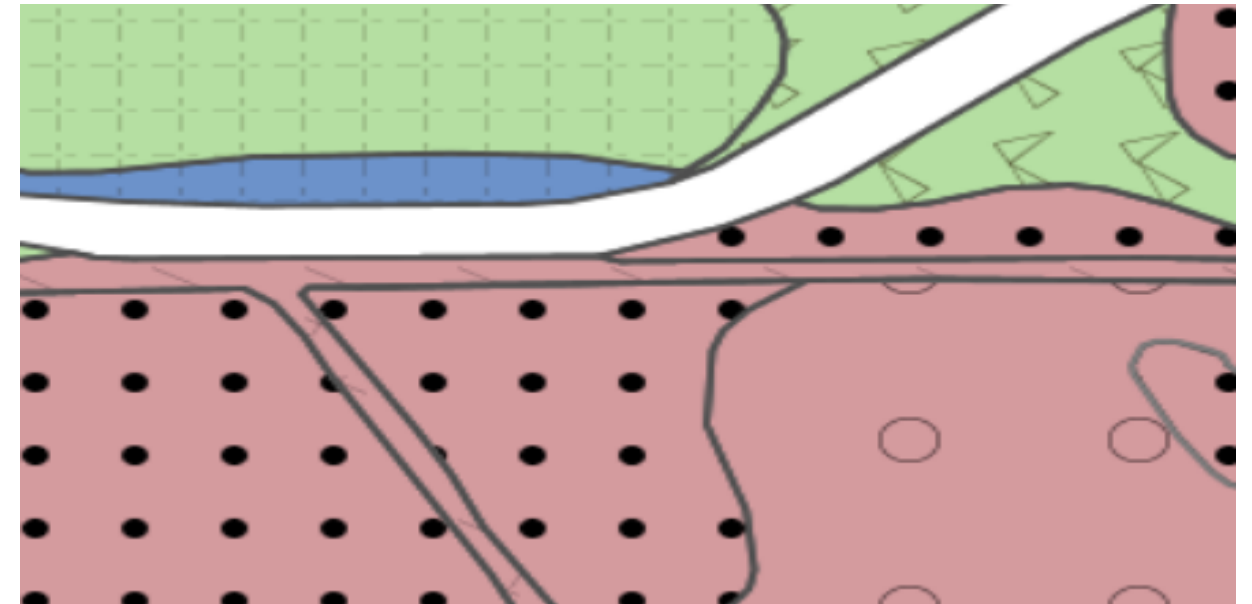
What is GeoStyler?

Support for ArcGIS

Support for ArcGIS

- Repository: geostyler/geostyler-lyrx-parser
- Based on GeoCat/bridge-style
- Features
  - Polygons
  - Lines
  - Points
  - Labels
  - Marks
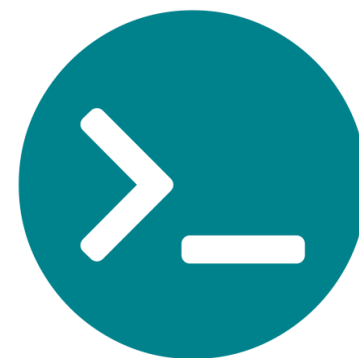 - Hatching
  - ...
- Limitations
  - .lyrx only
  - read only

Kudos to Benjamin, Wolfgang, Myriam, Thomas, Eva, Balz!

Support for ArcGIS

Now usable with with all GeoStyler tools

UICLIREST

OGC API Styles

OGC API Styles `Draft`
API for managing and fetching style documents

Main concepts
- Style as main resource
- Multiple stylesheets per style
- Style metadata

Benefits
- Interoperability
- Automation
- Centralized style management

OGC API Styles

OGC API Styles

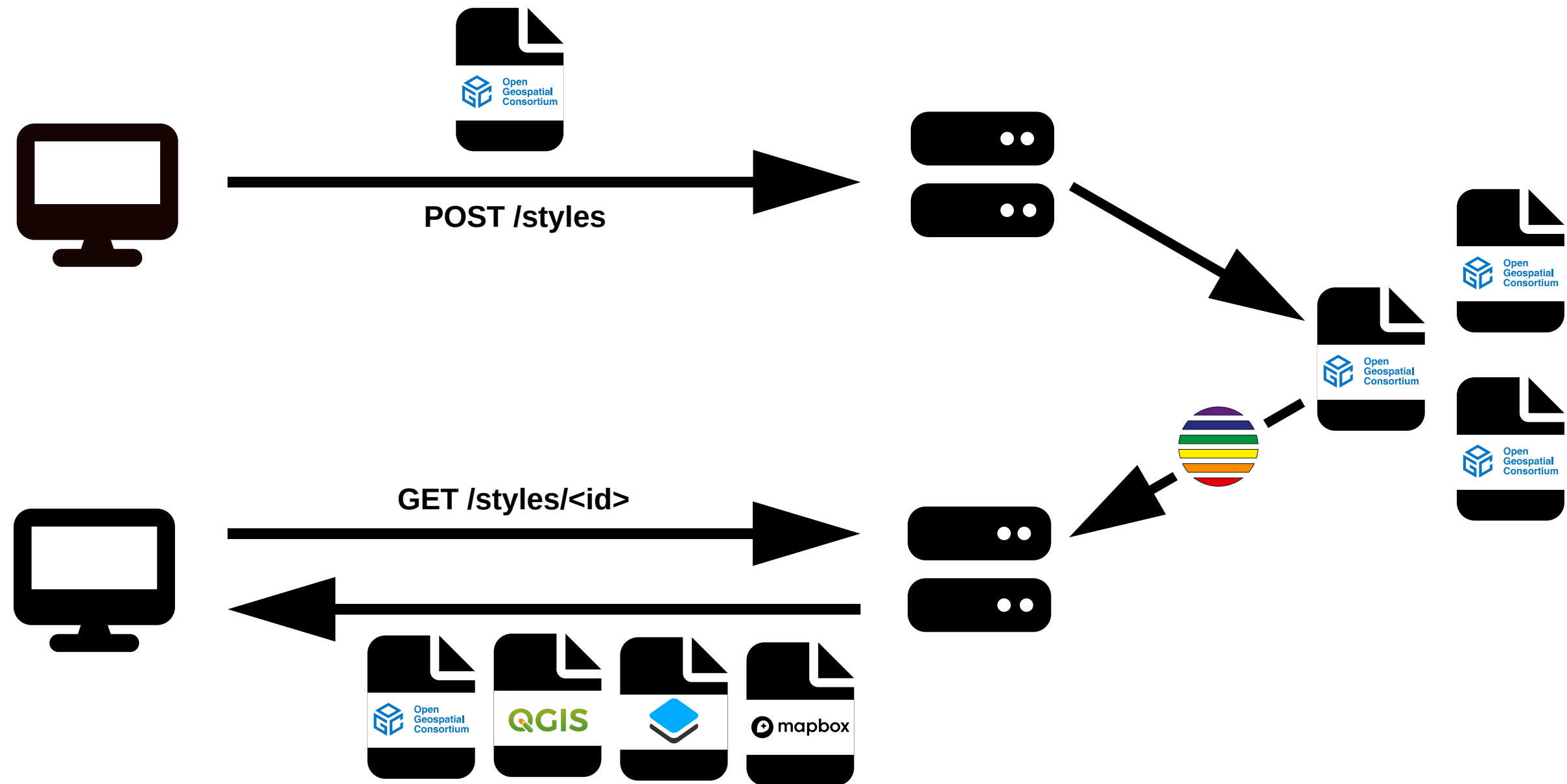API for managing and fetching style documents

Main concepts
- Style as main resource
- **Multiple stylesheets per style**
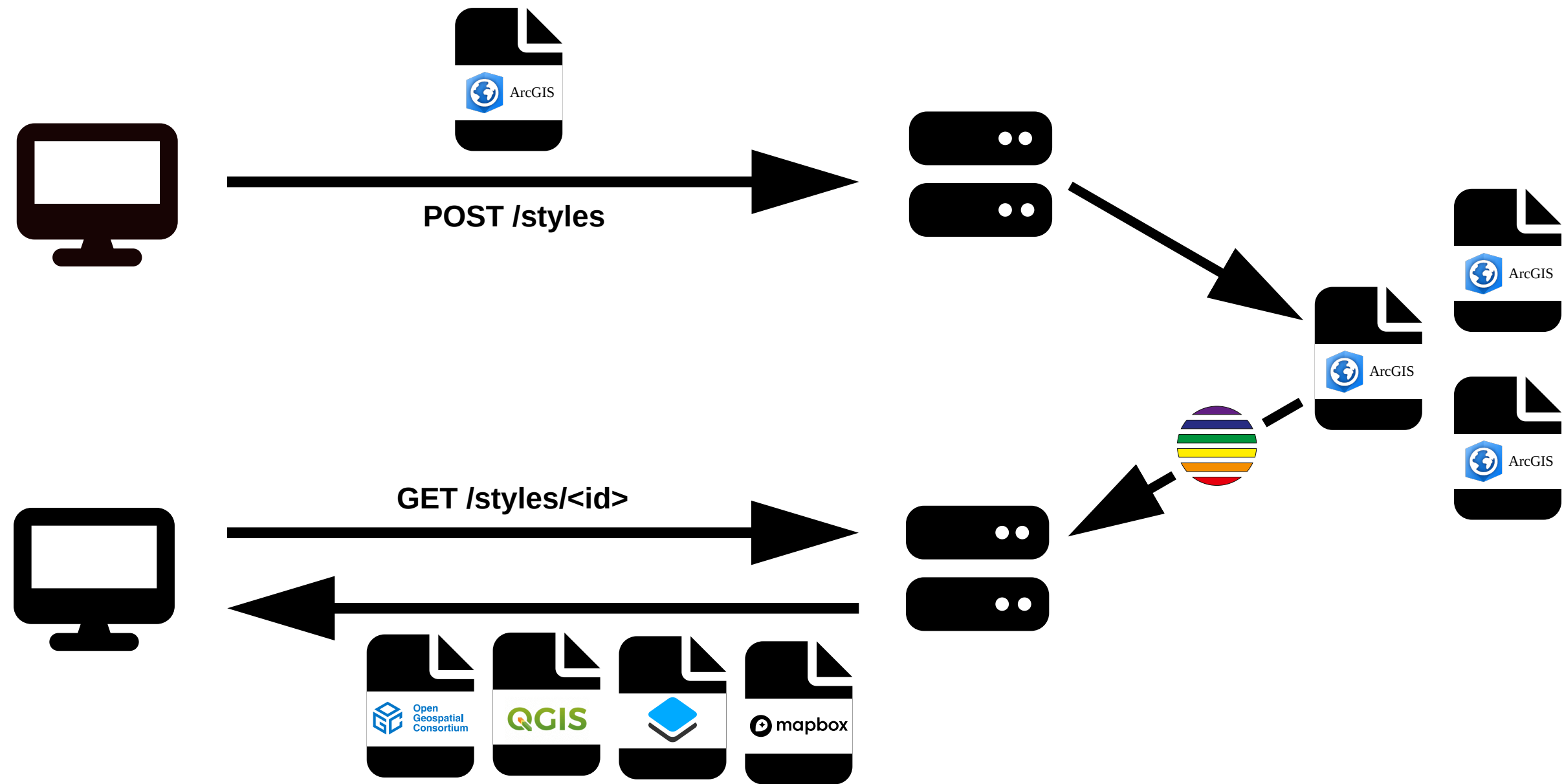- Style metadata

Benefits
- Interoperability
- Automation
- Centralized style management

GeoStyler REST + OGC API Styles

POST /styles

GET /styles/<id>

GeoStyler REST + OGC API Styles

POST /styles

GET /styles/<id>

GeoStyler REST + OGC API Styles

GET rest.geostyler.org/ogc/styles | Accept: application/json

```json
{
  "styles": [
    {
      "id": "population_quantiles",
      "title": "population_quantiles",
      "links": [
        {
          "href": "http://rest.geostyler.org/ogc/styles/population_quantiles?f=sld10"
          "type": "application/vnd.ogc.sld+xml;version=1.0",
          "rel": "stylesheet"
        },
        {
          "href": "http://rest.geostyler.org/ogc/styles/population_quantiles?f=sld11"
          "type": "application/vnd.ogc.sld+xml;version=1.1",
          "rel": "stylesheet"
```

GeoStyler REST + OGC API Styles

GET rest.geostyler.org/ogc/styles/population_quantiles | Accept: application/vnd.ogc.sld+xml;version=1.0

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<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
  xmlns:se="http://www.opengis.net/se">
  <NamedLayer>
    <Name>Population Quantiles</Name>
    <UserStyle>
      <Name>Population Quantiles</Name>
      <Title>Population Quantiles</Title>
      <FeatureTypeStyle>
        <Rule>
          <Name>679000 - 2071000</Name>
          <Filter xmlns="http://www.opengis.net/ogc">
```

GeoStyler REST + OGC API Styles

GET rest.geostyler.org/ogc/styles/population_quantiles | Accept: application/vnd.ogc.sld+xml;version=1.1

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<StyledLayerDescriptor version="1.1.0"
  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-
  xmlns:se="http://www.opengis.net/se">
  <NamedLayer>
    <se:Name>Population Quantiles</se:Name>
    <UserStyle>
      <se:Name>Population Quantiles</se:Name>
      <se:FeatureTypeStyle>
        <se:Rule>
          <se:Name>679000 - 2071000</se:Name>
          <Filter xmlns="http://www.opengis.net/ogc">
            <And>
```

GeoStyler REST + OGC API Styles

GET rest.geostyler.org/ogc/styles/population_quantiles | Accept: application/vnd.qgis.style+xml

```xml
<!DOCTYPE qgis PUBLIC 'http://mrcc.com/qgis.dtd' 'SYSTEM'>
<qgis version="3.28.0-Firenze">
  <renderer-v2 type="RuleRenderer">
    <rules key="renderer_rules">
      <rule key="renderer_rule_0" symbol="0" label="679000 - 2071000" filter="pop >= '679000' AND pop &lt; '2071
      <rule key="renderer_rule_1" symbol="1" label="2071000 - 3228500" filter="pop >= '2071000' AND pop &lt; '32
      <rule key="renderer_rule_2" symbol="2" label="3228500 - 6646250" filter="pop >= '3228500' AND pop &lt; '66
      <rule key="renderer_rule_3" symbol="3" label="6646250 - 17890000" filter="pop >= '6646250' AND pop &lt;= '
    </rules>
    <symbols>
      <symbol type="fill" name="0">
        <layer class="SimpleFill">
          <Option type="Map">
            <Option name="color" value="247,244,249,255" type="QString"/>
            <Option name="offset_map_unit_scale" value="3x:0,0,0,0,0,0" type="QString"/>
```

GeoStyler REST + OGC API Styles

GET rest.geostyler.org/ogc/styles/population_quantiles | Accept: application/vnd.mapbox.style+json

```json
{
    "version": 8,
    "name": "Population Quantiles",
    "layers": [
        {
            "filter": [
                "all",
                [
                    ">=",
                    "pop",
                    "679000"
                ],
                [
                    "<",
                    "pop",
```

GeoStyler REST + OGC API Styles

GET rest.geostyler.org/ogc/styles/population_quantiles | Accept: application/vnd.geostyler+json

```json
{
    "name": "Population Quantiles",
    "rules": [
      {
        "name": "679000 - 2071000",
        "filter": [
          "&&",
          [
            ">=",
            "pop",
            "679000"
          ],
          [
            "<",
            "pop",
```

GeoStyler REST + OGC API Styles

Benefits

- One style - multiple applications
- Low maintenance - no duplicates
- Different tools for different purposes: Editing vs. SSR vs. CSR

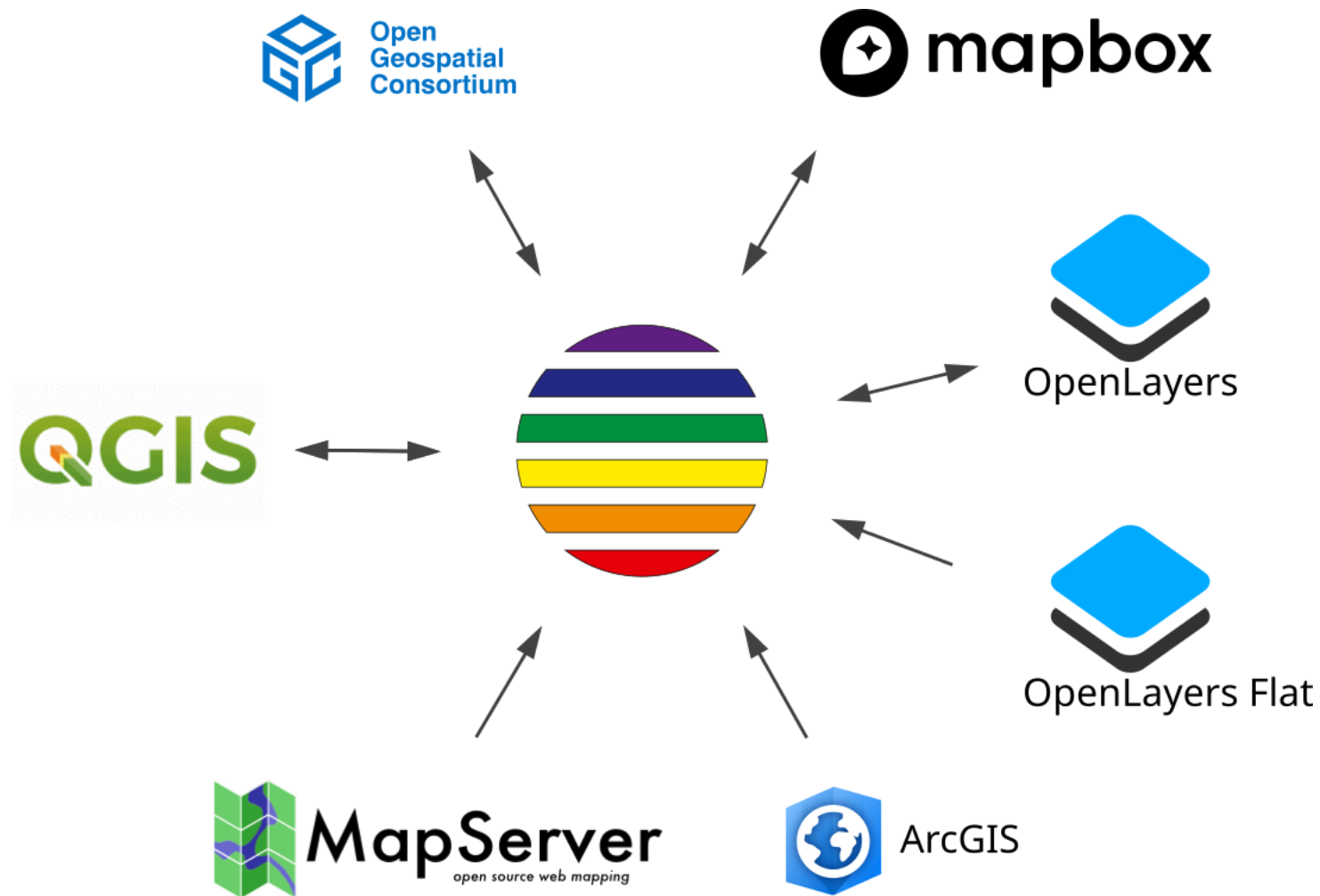- Transition to Open Source Software and Open Standards

Try it out: rest.geostyler.org
Repository: geostyler/geostyler-rest

OpenLayers Flat Styles Parser

geostyler/geostyler-openlayers-parser

- Serializable
- Configuration over implementation
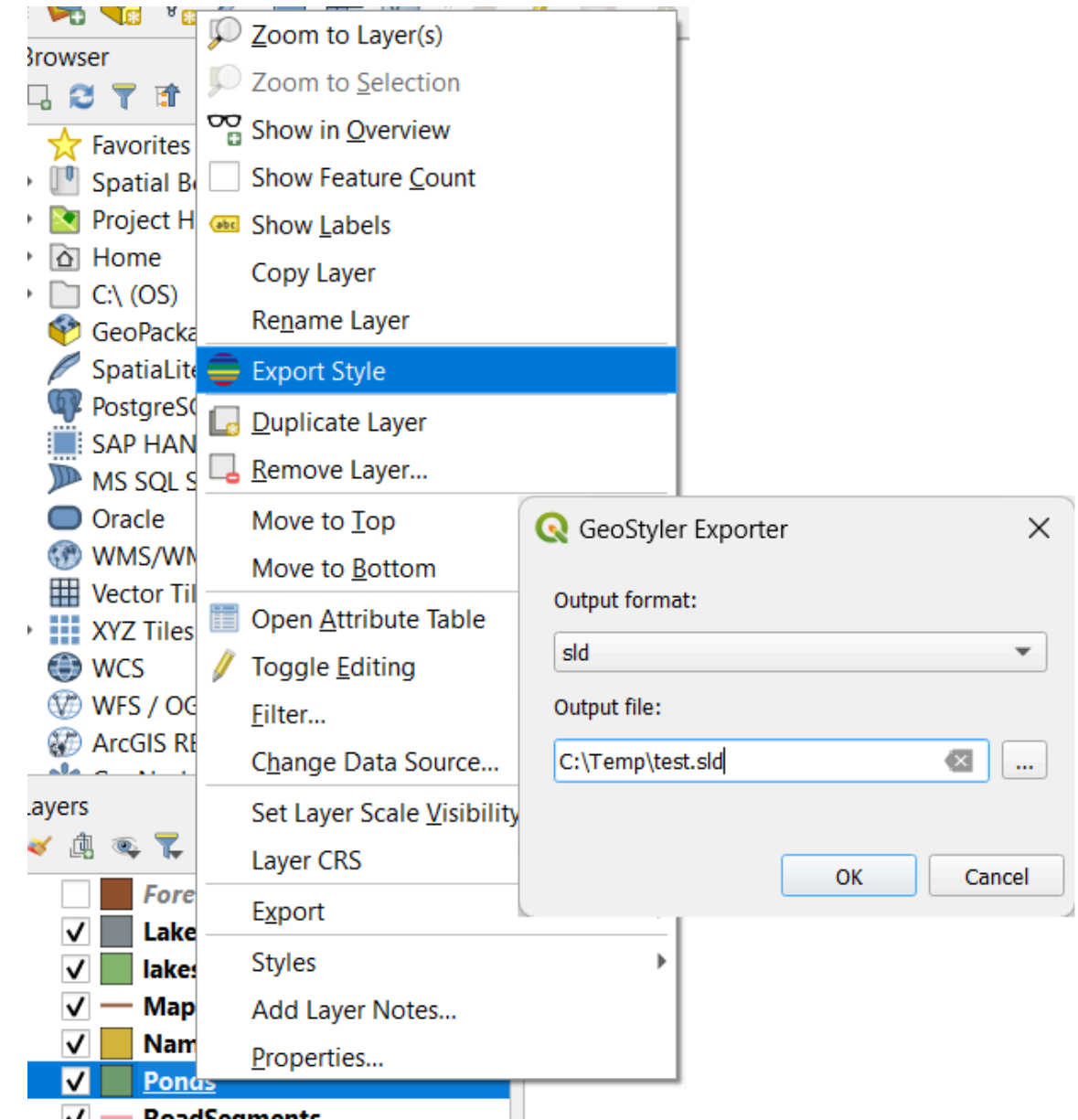- Integration in CLI, GeoStyler REST, etc.

Other news

QGIS Plugin
Repository: geostyler/geostyler-qgis-plugin

General improvements
Better UI, better expressions, better parsers

Dedicated Server
More demos, more services, more GeoStyler

GeoStyler Code Sprint 2025

02.06. - 06.06.2025, Switzerland
Blog Post GeoStyler Code Sprint 2025

OSGeo Official

Community Project → OSGeo Project

Questions?

Contact us on

Github: geostyler/geostyler

Discord: discord.gg/yrXHDpcFcB

Imprint

Author

Jan Suleiman

terrestris GmbH & Co. KG

Kölnstr. 99, 53111 Bonn, Germany

suleiman@terrestris.de

Licence