

# OPENLAYERS 3

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## TOWARDS VERSION 3.0.0 FINAL



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# MARC JANSEN



- Developer and project manager
- Core developer of
  - OpenLayers / ol3
  - GeoExt / GeoExt2 / GXM
  - SHOGun
- PSC member of GeoExt & SHOGun
- Author 'OpenLayers' (German)
- OSGeo Foundation Charter Member

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# terrestris



 @terrestris  
 @terrestrisde

- [terrestris.de](http://terrestris.de)
- OpenSource GIS from Bonn, Germany
- Development, Projects & Support/Teaching
- Consulting, Planning, Implementation & Maintenance

# ABOUT THIS TALK

- Highlights
- Examples
- Live-Demos
- Code-Snippets

OPENLAYERS  
NOW AND  
THEN

# OPENLAYERS

- Very widely used library to build interactive web maps.
- v. 2.0 ⇒ nearly **8 years old**

```
> git show 48445f08784810d82c741e92f297e2a51e8ef964
commit 48445f08784810d82c741e92f297e2a51e8ef964
Author: crschmidt <cgschmidt@crschmidt.net>
Date:   Fri Aug 25 17:55:07 2006 +0000

    And I said "Ship it, or I will want to kill the next reporter of an IE bug".
    And so it was done.

git-svn-id: http://svn.openlayers.org/tags/openlayers/release-2.0@1368
```

# OPENLAYERS

- 13 Point-releases
- > 6.000 commits, ~100 contributors
- Feature rich:
  - Layertypes,
  - Controls,
  - Formats,
  - Mobile ...



# BUT...

- ~8-year-old architecture
- Modern Web-Technologies
- Moderne Browsers



...THEREFORE...

WE WANT A  
NEW  
OPENLAYERS!

# ol3

- in development for ~ 2 years
- partly crowd-funded
- up to now 4 alpha, 5 beta & 2 gamma releases
- [ol3js.org](http://ol3js.org)
- Google-Group / mailinglist
- Github repository

# WHAT'S NEW?

- de facto: **Everything**
- Complete *rewrite-from-scratch*
- Tests and data have been ported over

# WHAT'S NEW?

- Google Closure Library (Gmail, Google Maps)
- Google Closure Compiler
- jsdoc3
- WebGL
- *Mobile first / from start*
- Styling only via CSS
- build.py

# CLOSURE COMPILER

```
ol.format.XMLFeature.prototype.readFeatures = function(source) {
  if (ol.xml.isDocument(source)) {
    return this.readFeaturesFromDocument/** @type {Document} */ (source));
  } else if (ol.xml.isNode(source)) {
    return this.readFeaturesFromNode/** @type {Node} */ (source));
  } else if (goog.isString(source)) {
    var doc = ol.xml.load(source);
    return this.readFeaturesFromDocument(doc);
  } else {
    goog.asserts.fail();
    return [];
  }
};
```

... compiles to:

```
l.Ga=function(a){return Kn(a)?fo(this,a):Nn(a)?this.$b(a):la(a)?(a=Rn(a),fo(this,a)):[]};
```



 **tmcw** commented

7 months ago



True, Closure is a big buyin, but probably worth it.

Yes, and yes

# WHAT STAYS THE SAME?

- Usable
- Modern
- Fast
- Extendable

# WHAT STAYS THE SAME?

- Understandable
- Conforming to standards
- Cross-Anything
- Well documented
- Reliable

# EXAMPLES

# HELLO, WELT



OpenLayers 3 Examples (./)

Production ▾



# CODE

```
var map = new ol.Map({  
  layers: [  
    new ol.layer.Tile({  
      source: new ol.source.OSM()  
    })  
  ],  
  target: 'map',  
  view: new ol.View({  
    center: [0, 0],  
    zoom: 2  
  })  
});
```

# OPENLAYERS 2.X

- $1 \times \text{OpenLayers.Map}$ 
  - $n \times \text{OpenLayers.Layer.Xxx}$
  - $n \times \text{OpenLayers.Control.Yyy}$

# ol3

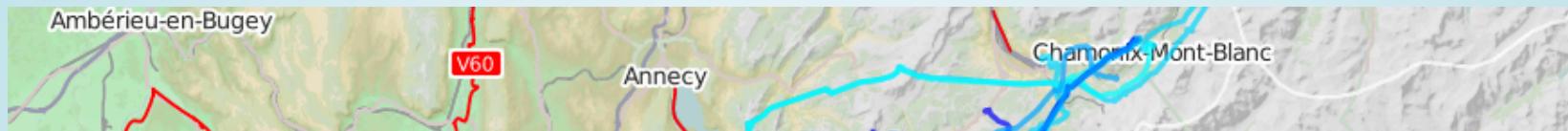
- $1 \times \text{ol.Map}$ 
  - $1 \times \text{ol.View}$
  - $n \times \text{ol.interaction.Zzz}$
  - $n \times \text{ol.control.Yyy}$
  - $n \times \text{ol.layer.Xxx}$ 
    - $1 \times \text{ol.source.Xxx}$

# 50.000 COORDINATES



OpenLayers 3 Examples (./)

Production ▾



# CODE

```
var vectorSource = new ol.source.IGC({
  urls: [
    'data/igc/ClementLatour.igc' // etc.
  ]
});

var styleFunction = function(feature, resolution) {
  // ...
  return styleArray;
};

var layer = new ol.layer.Vector({
  source: vectorSource,
  styleFunction: styleFunction
});
```

# DRAG & DROP / FORMATS



OpenLayers 3 Examples (./)

Production ▾



# HIGHLIGHTS

# PERFORMANCE REPLAY-API



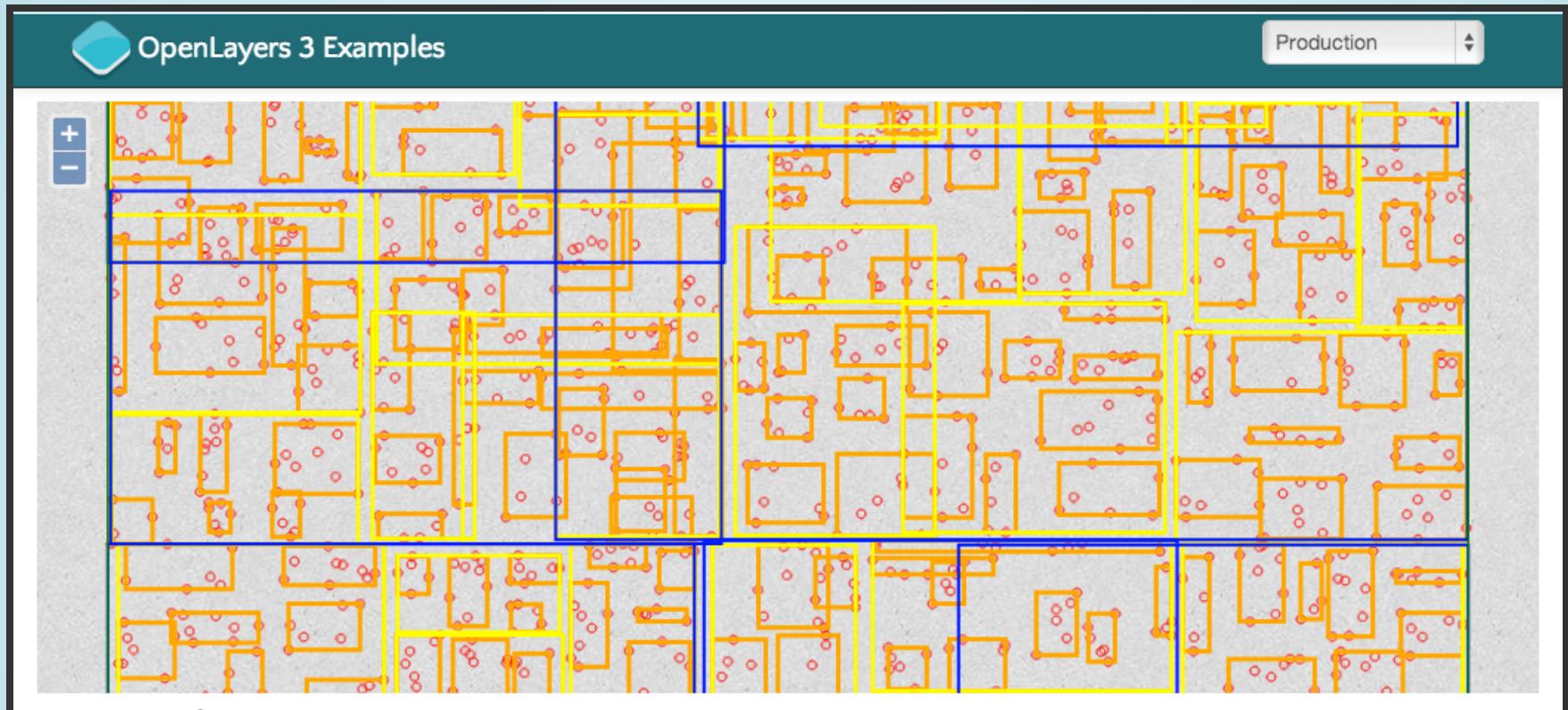
OpenLayers 3 Examples (./)

Production ▾



**786.433  
POINTS!**

# PERFORMANCE R-TREE



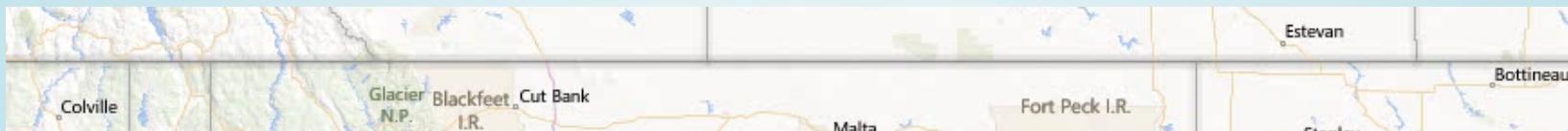
<https://github.com/mourner/rbush>

# PRE-/POSTCOMPOSE API



OpenLayers 3 Examples (./)

Production ▾



v3.0.0

# TODO

- API review
- API can and will change
- API stability
- API docs
- Custom-build-Tool
- v3.0.0 is near

# READY FOR PRODUCTION

The screenshot displays a web-based geographical information system (GIS) interface. At the top left, there is a logo of the Swiss coat of arms and text in German, French, and Italian: "Schweizerische Eidgenossenschaft", "Confédération suisse", "Confederazione Svizzera", and "Confederaziun svizra". Below this, there are links for "Share", "Drucken" (Print), and "Werkzeuge" (Tools). A dropdown menu titled "Geokatalog" is open, listing various geological and environmental datasets such as "Gesteinklassierung", "Gravimetrischer Atlas", "Einteilung gravimetrischer Atlas", "Boden", "Naturbedingte Risiken", and "Wald, Flora, Fauna". A sub-menu "Auswahl" is also visible. On the right side, a search bar contains the text "Bern (BE)". A dropdown menu below it lists several locations: Muri bei Bern (BE), Wohlen bei Bern (BE), Bremgarten bei Bern (BE), Bern (BE) (which is highlighted with a cursor), Berne (BE), Berna (BE), Bibern (SO), Berneck (SG), and Bernex (GE). To the right of the search bar, there is a map of the city of Bern and its surrounding areas. The map shows various neighborhoods like Kirchlindach, Bremgarten, Herrenschwanden, and Worb. It includes contour lines, roads, and other geographical features. The word "BERN" is prominently displayed in the center of the map area. At the bottom right of the map, there is a copyright notice: "geo.admin.ch Copyright & Datenschutzerklärung".

map.geo.admin.ch ,  Code

WHEN WILL IT  
SHIP?

MILESTONE 3.0.0 IS DUE ...

... 2014-08-21 ...

... ± n MONTHS 😊

THANK YOU  
QUESTIONS /  
REMARKS?

Imprint

# IMPRINT

- Author: Marc Jansen, terrestris GmbH & Co. KG,  
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- This talk is a derived work of the talk "OpenLayers 3 — Einführung, Verwendungsbeispiele und technische Highlights" by Marc Jansen & Andreas Hocevar, held at the FOSSGIS 2014.
- [Slideshow \(HTML5\)](#)
- [Slides \(PDF\)](#)