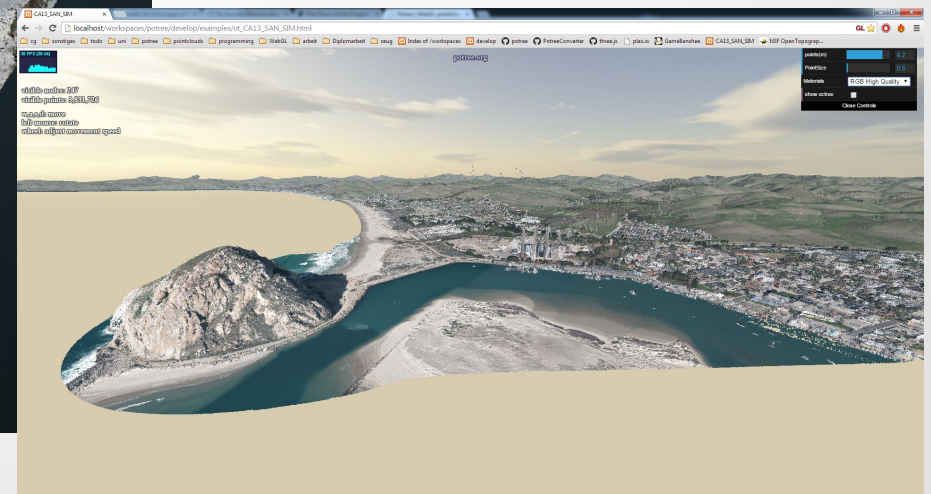
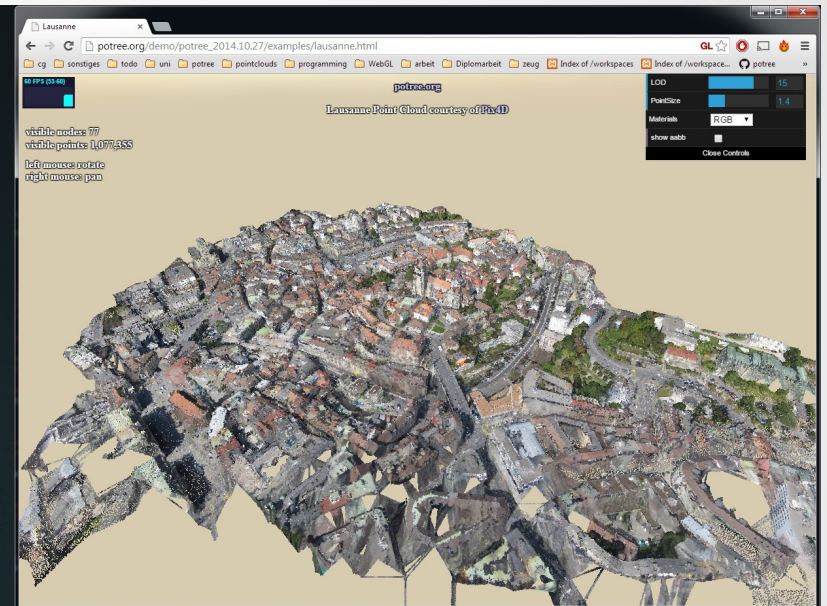
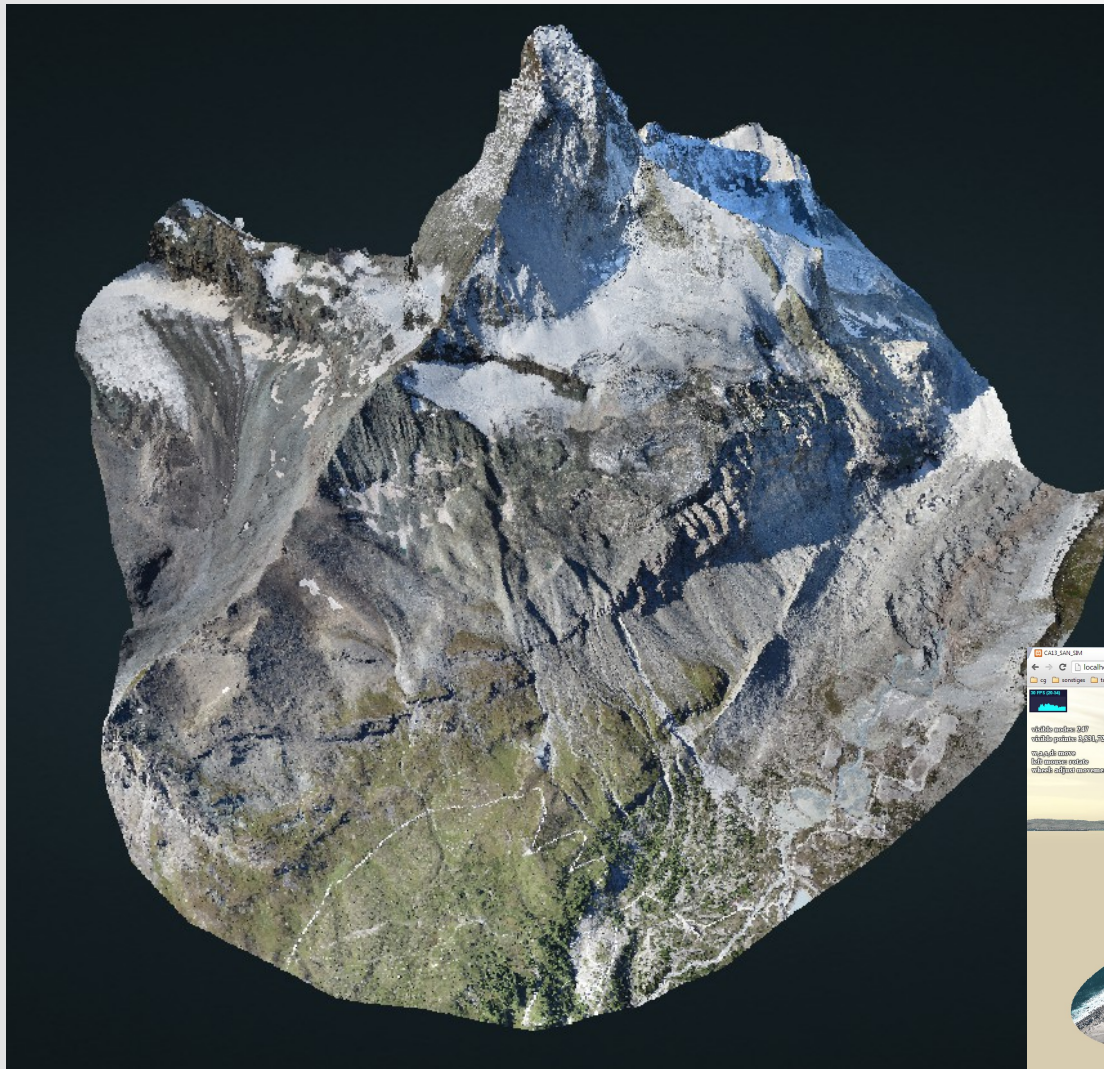




# Potree - Rendering Point Clouds in Web Browsers

Markus Schütz, [www.potree.org/](http://www.potree.org/)

# Potree



# Potree

- Web Viewer for large point clouds
- Uses WebGL / three.js
- No Plugins required
- Works on Chrome, Firefox, Safari on desktop PCs and mobile devices (iPad4, smartphones, ...)
- Also IE11 but not as fast and some bugs
- Entirely client side application. Server only hosts files but does not execute code.
- Don't load full point cloud data → load visible regions up to a certain level of detail



# Potree

1. level



2. level



5. level



# Workflow

1. Convert point cloud with PotreeConverter
2. Modify examples to use converted data
3. Upload to WebServer

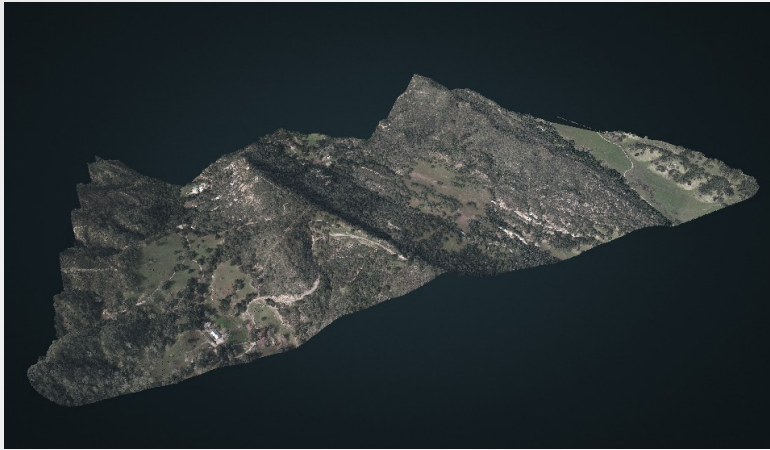
See Getting Started:

[https://github.com/potree/potree/blob/master/docs/getting\\_started.md](https://github.com/potree/potree/blob/master/docs/getting_started.md)

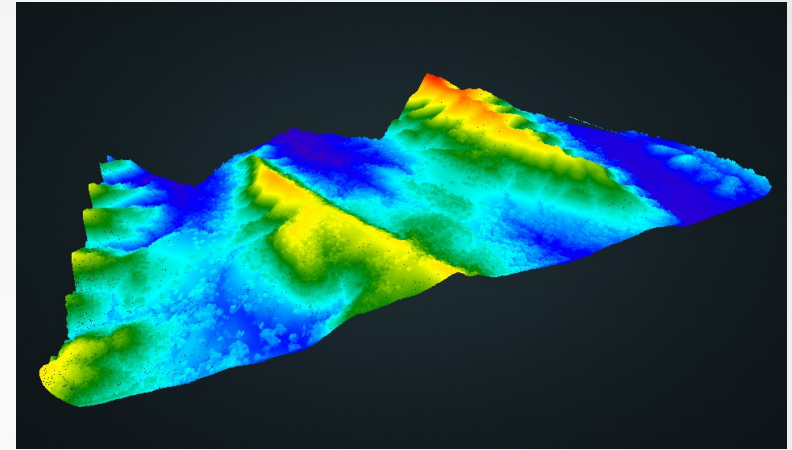
# Features

- Different Materials (RGB, Intensity, Classification, ...)
- 4 Point Rendering Modes (Squares, Circles, Interpolation, Splats)
- PotreeConverter creates BINARY, LAZ(compressed) or LAS hierarchy.
- Based on three.js so everything three.js can do, too.
- Distance, Area and Height Profile Measurements
- Fixed, Attenuated and Adaptive Point Sizes
- Georeferencing

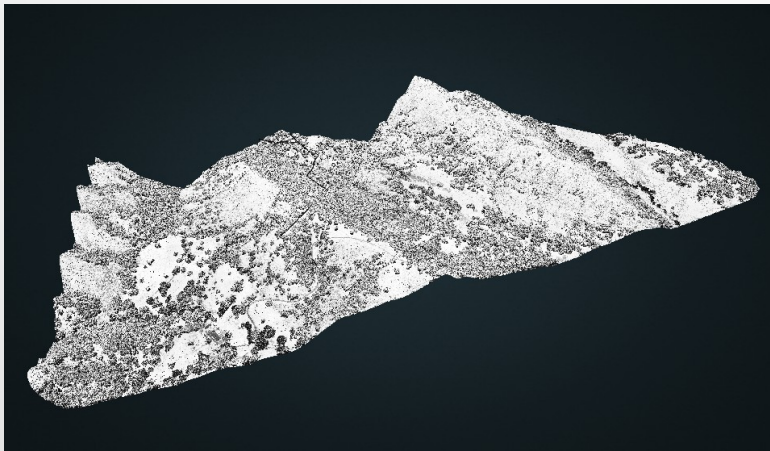
# Materials



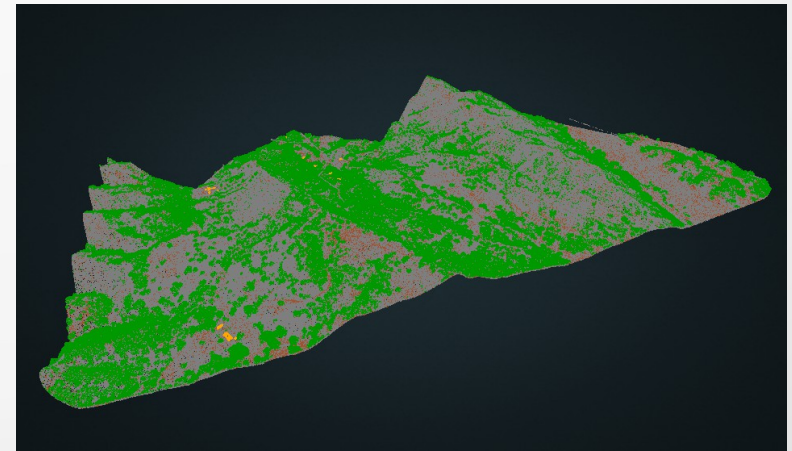
**RGB**



**Height**



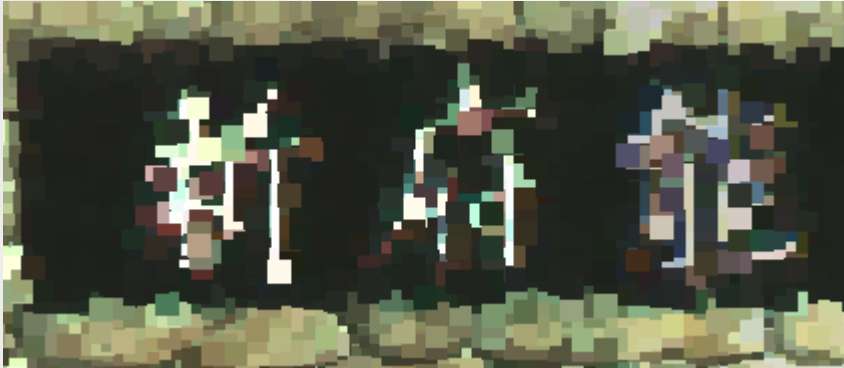
**Intensity**



**Classification**



# Point Rendering Quality



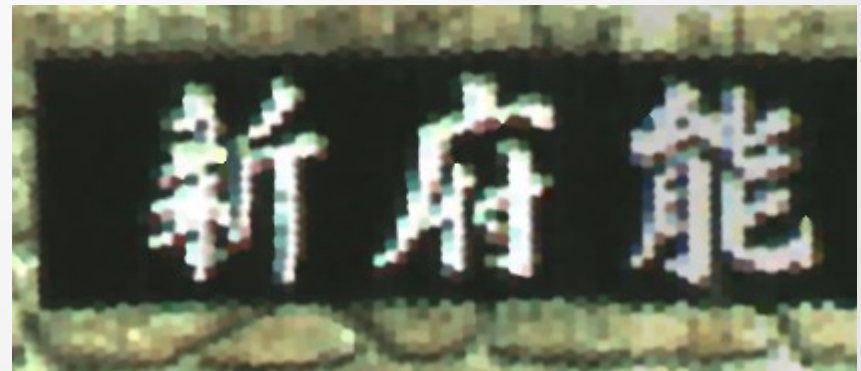
**Squares**



**Circles**



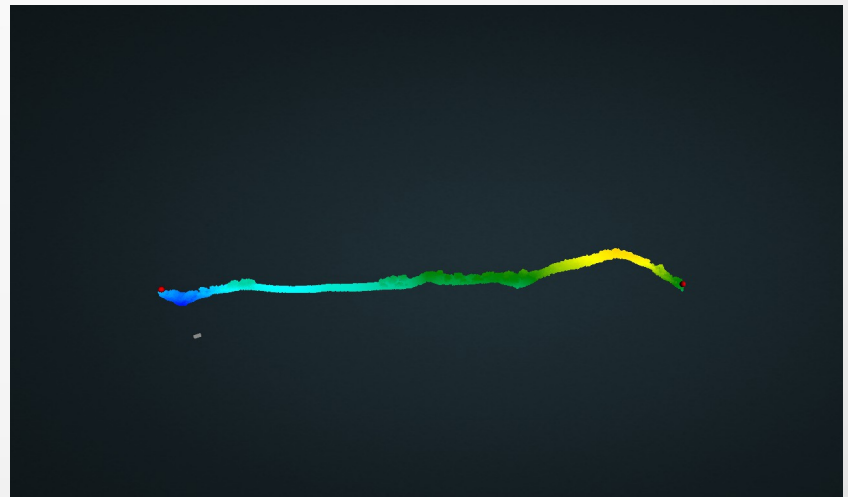
**Interpolation**



**Splats**

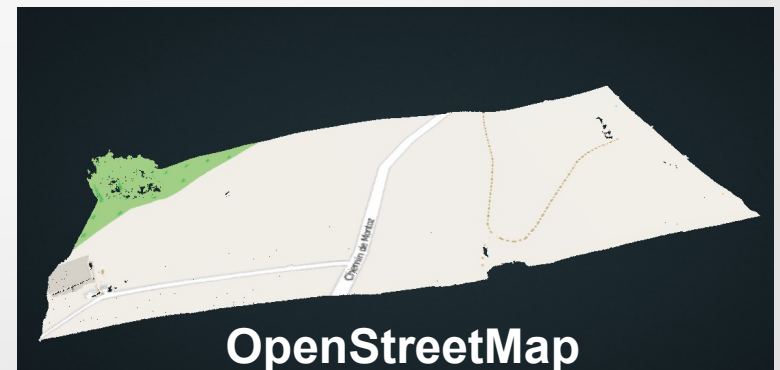
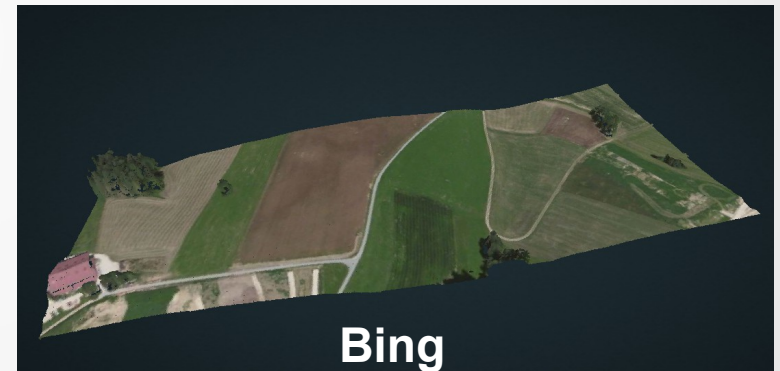
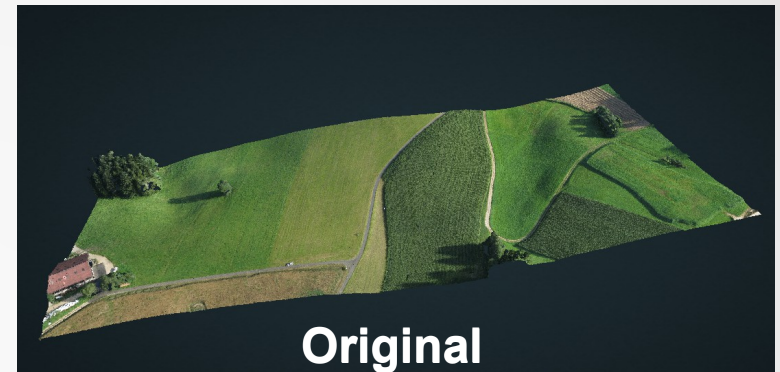
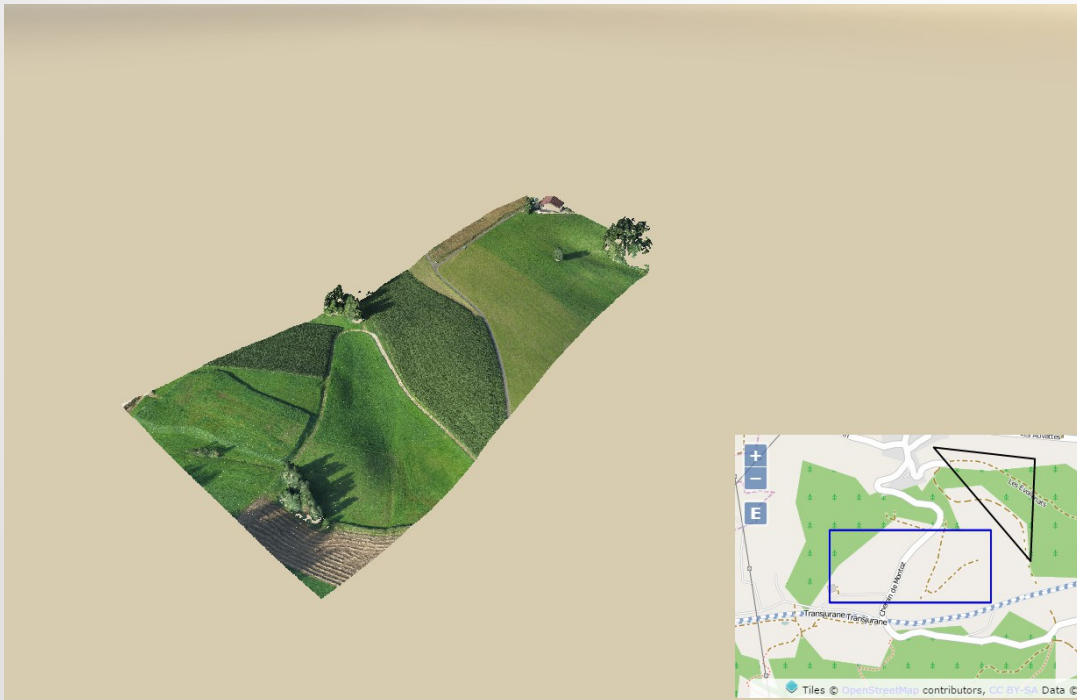


# Measurements



# Georeferencing

- Minimap with real world position
- Project Map (Bing, OSM, ...) on point cloud (Work In Progress)

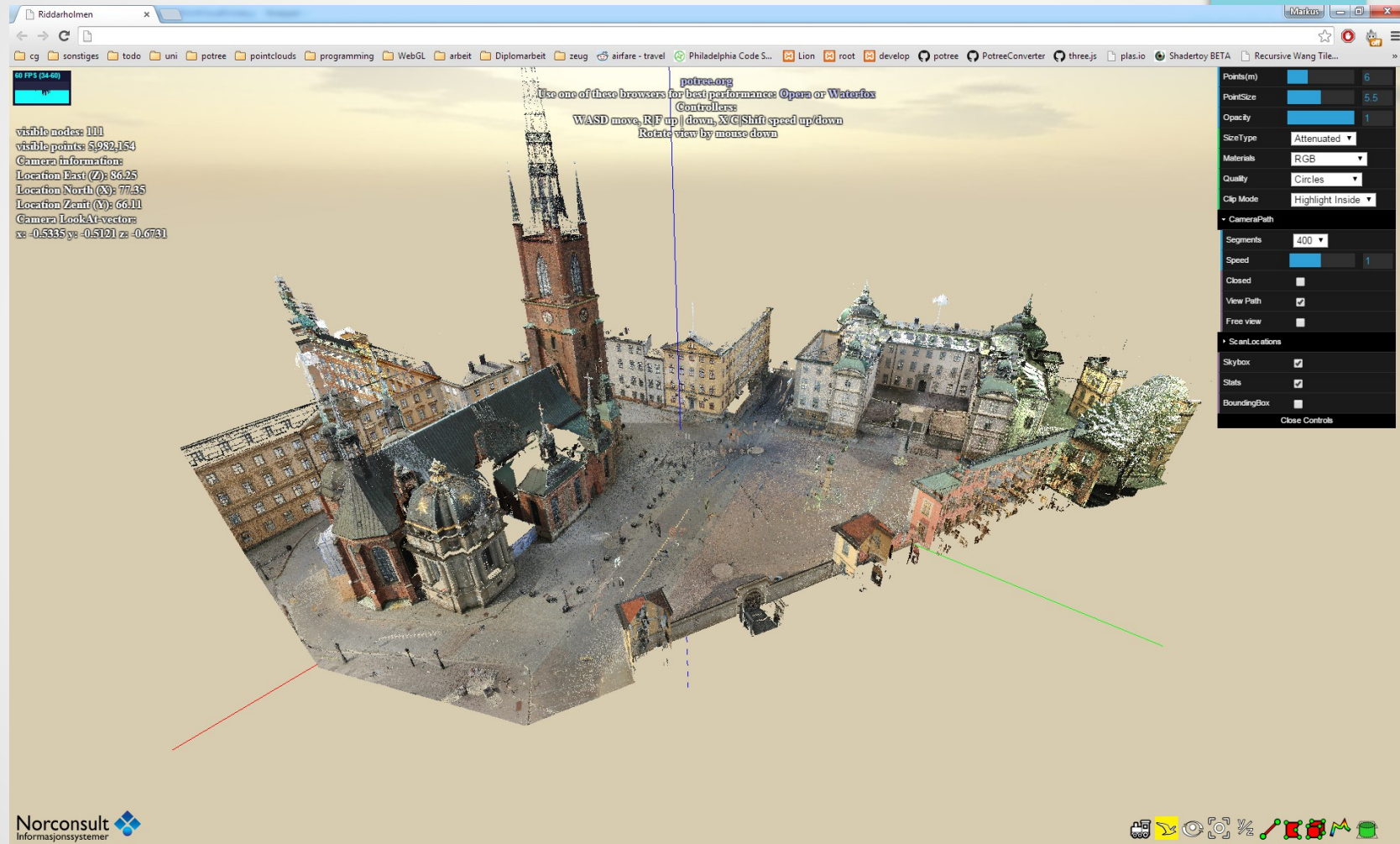


# Potree

- Based on Scanopy, a desktop point cloud viewer from the Vienna University of Technology cg department  
<http://cg.tuwien.ac.at/research/projects/TERAPOINTS/>
- Free and Open Source, available on github
- Now continued as master thesis under the Harvest4D project: <http://harvest4d.org>

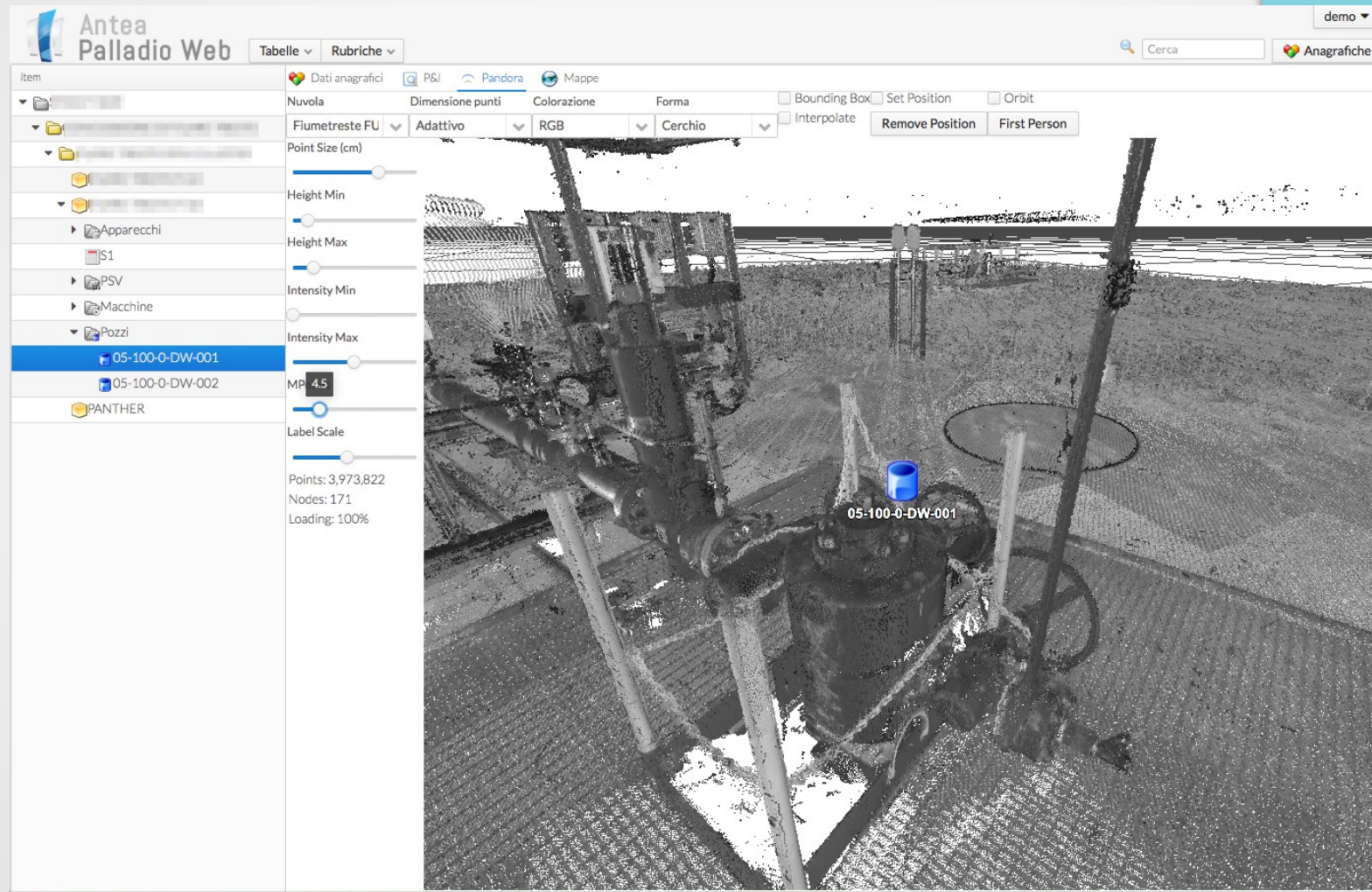


# Sites using Potree



Norconsult: <http://www.norconsult.com>

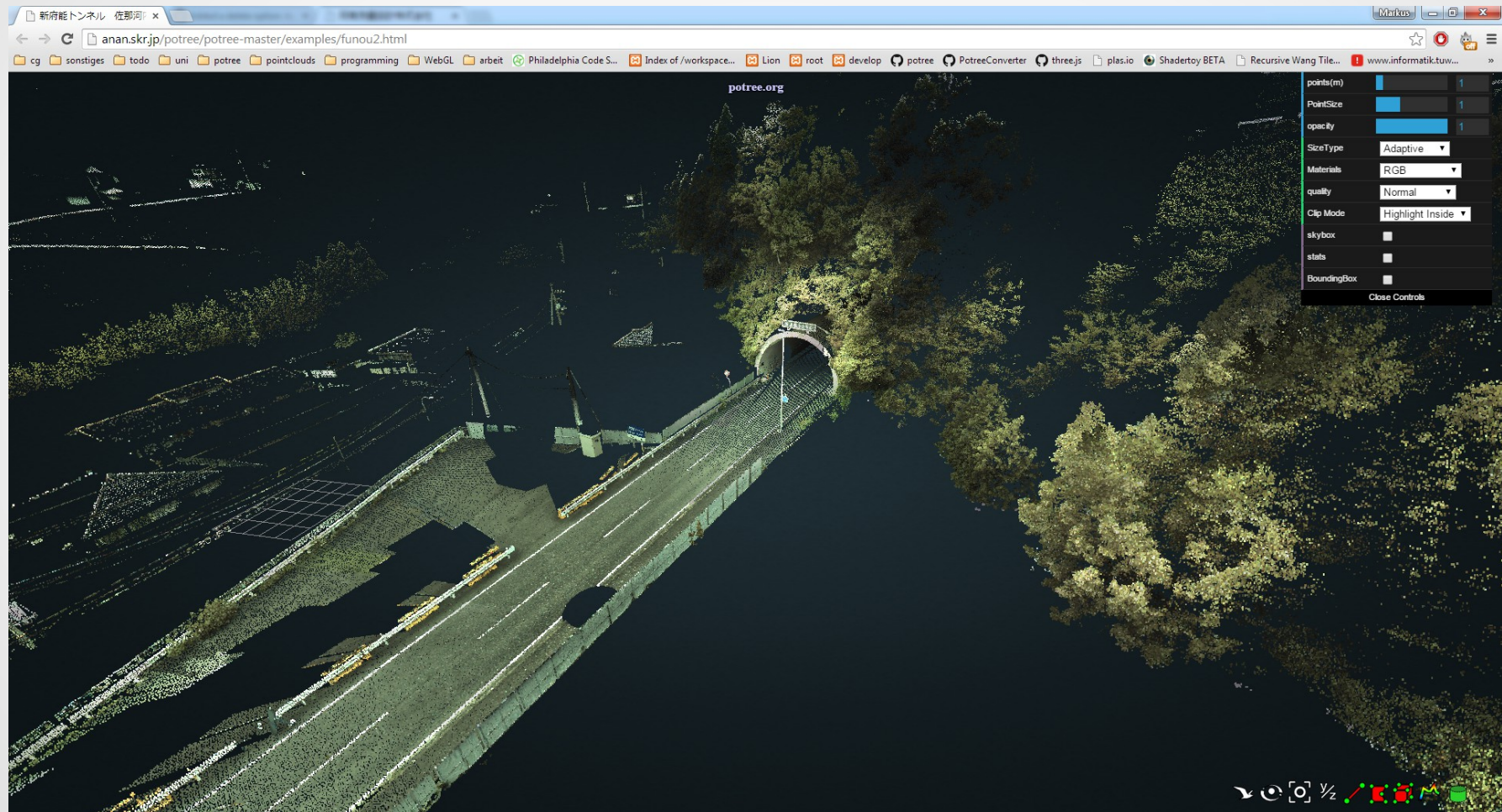
# Sites using Potree



Antea: <http://www.anteash.com>



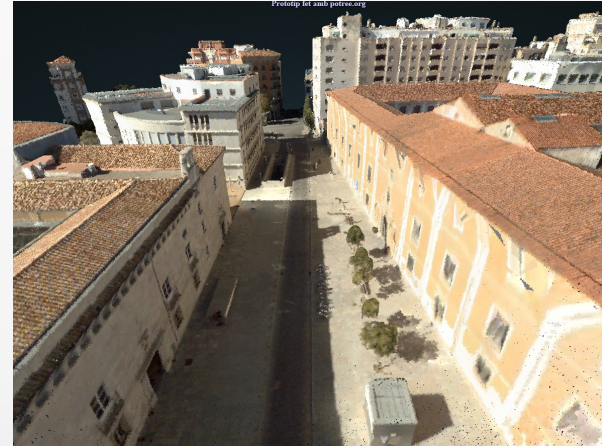
# Sites using Potree



Anan: <http://anan.skr.jp>



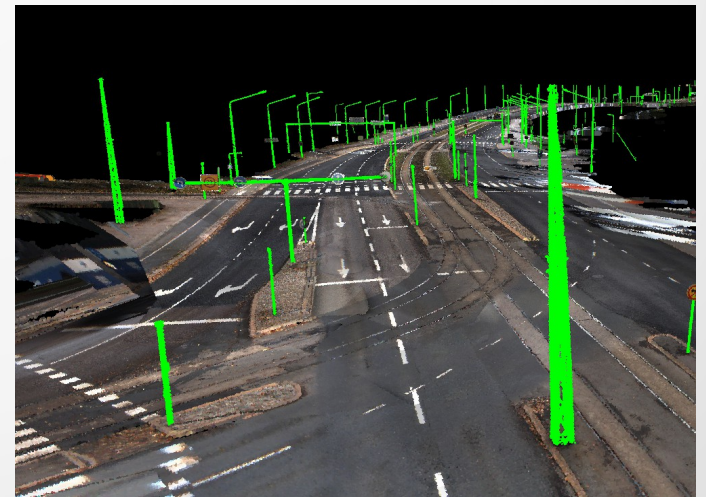
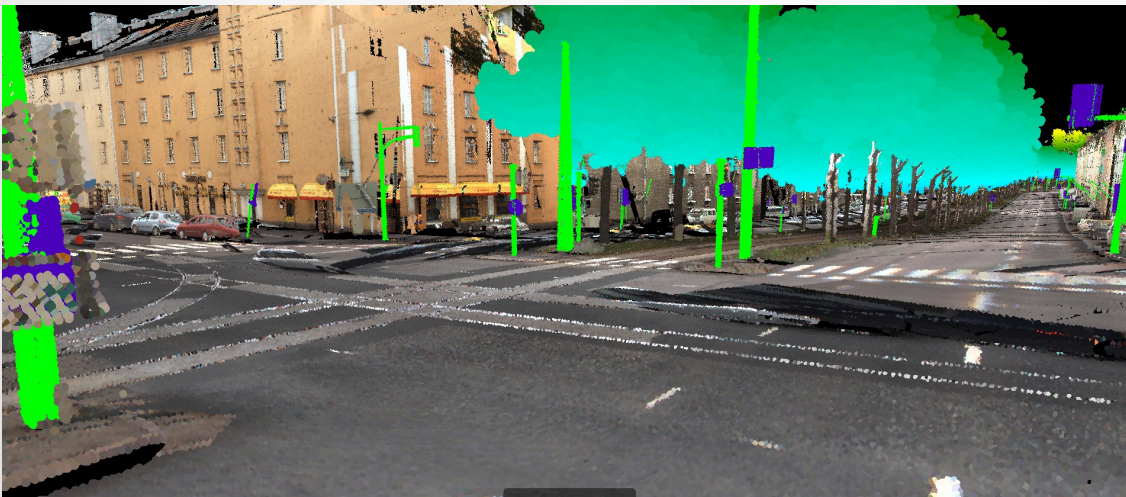
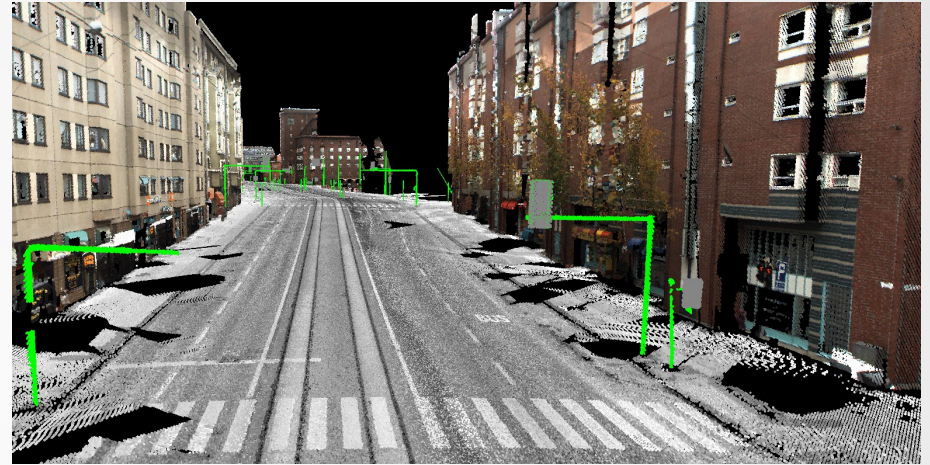
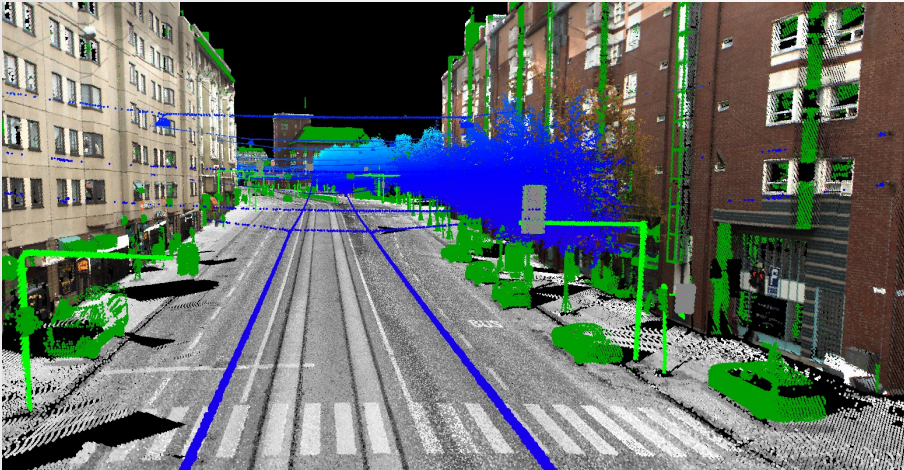
# Sites using Potree



ICGC: <http://icgc.cat>



# Sites using Potree



3point: <http://tripoint.fi>



# Sites using Potree



Georepublic: [www.georepublic.de](http://www.georepublic.de)  
Pointcloud by [www.aeroasahi.co.jp](http://www.aeroasahi.co.jp)



# Potree

**Thank you for your attention**

<http://potree.org>

<http://github.com/potree>

<http://harvest4d.org>