Potree - Rendering Point Clouds in Web Browsers

Markus Schütz, 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
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
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
Point Rendering Quality

- Squares
- Circles
- Interpolation
- Splats
Measurements

1.65
2.93

[Images of 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/TERAPORT/NS/
• 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
Pointcloud by www.aeroasahi.co.jp
Thank you for your attention

http://potree.org

http://github.com/potree

http://harvest4d.org