



OSM Buildings.org · Jan Marsch [@osmbuildings](https://twitter.com/osmbuildings)

OpenStreetMap building geometry with JavaScript

OSM Buildings

- Add-on for web maps
- Dynamic perspective
- No installation or plugins required
- Runs on mobile and slow devices
- Fast, simple, small



Render modes



Default



3d anaglyph



Sketch

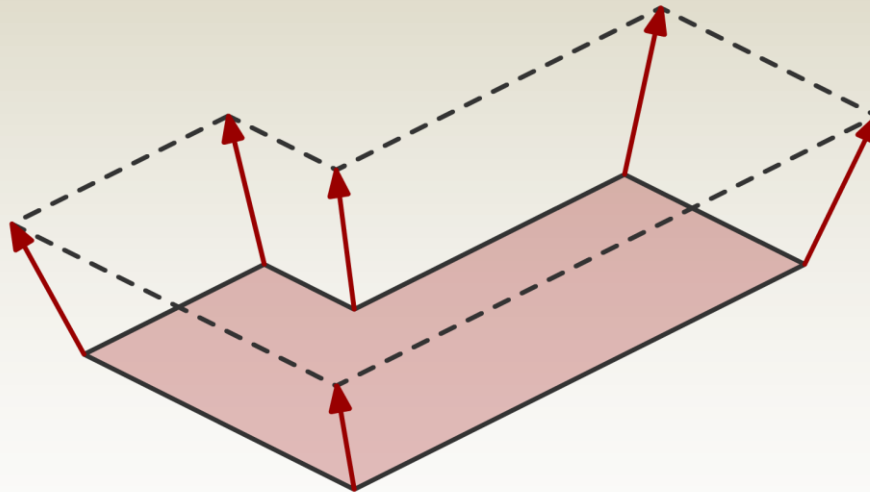
Integration

- Additional Layer for existing maps
- Engines: LeafletJS, OpenLayers ...
- Geocoding, search, routing etc. transparently

```
<head>  
  <script src="OSMBuildings-Leaflet.js"></script>  
</head>  
  
<script>  
var map = new L.Map({...});  
new OSMBuildings(map).loadData();  
</script>
```

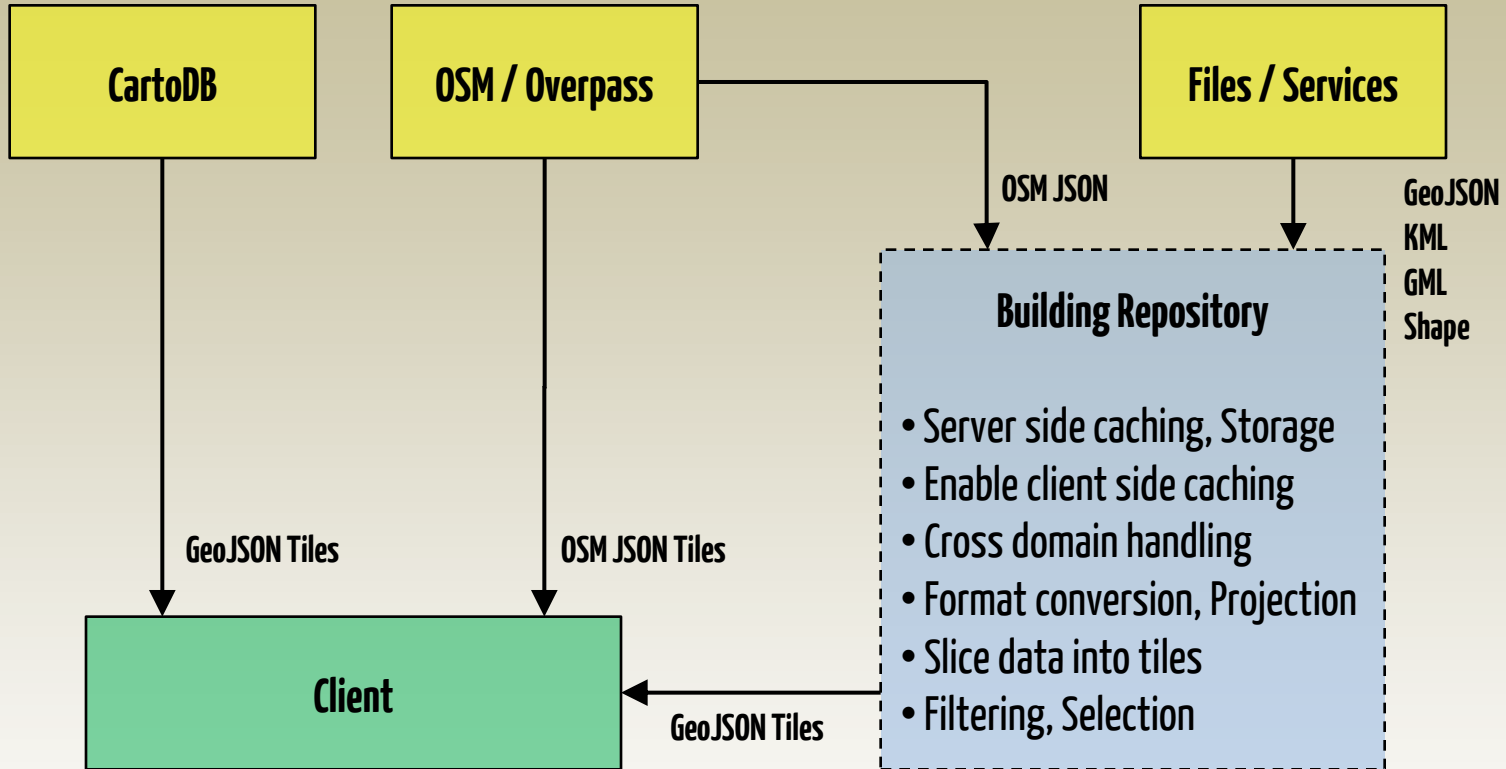
Idea

- HTML5, JavaScript, Canvas – no WebGL, Java or Flash
- Simplified matrix calculations for perspective effect



- Extruded objects: footprint + height

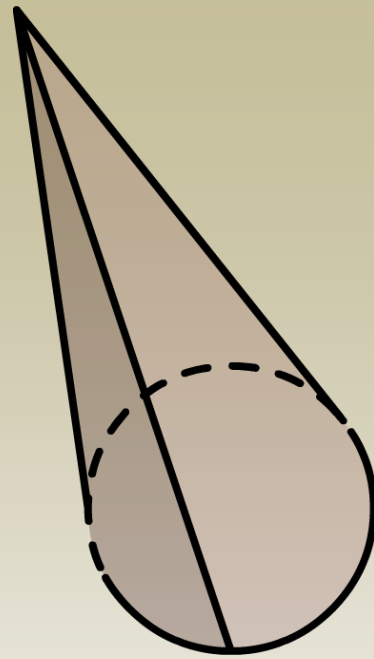
Data



- GeoJSON Tiles with bounding box, independent from zoom
- OpenStreetMap: 105 M buildings, 1.7 M with height

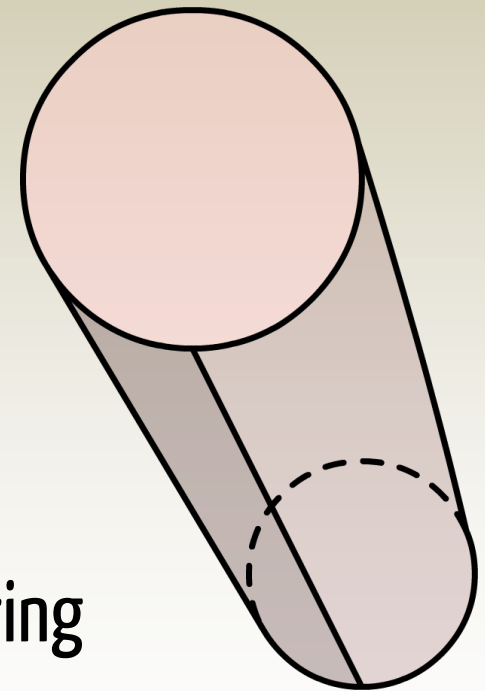
Geometry

- Less data
- Simple calculations
- Faster drawing



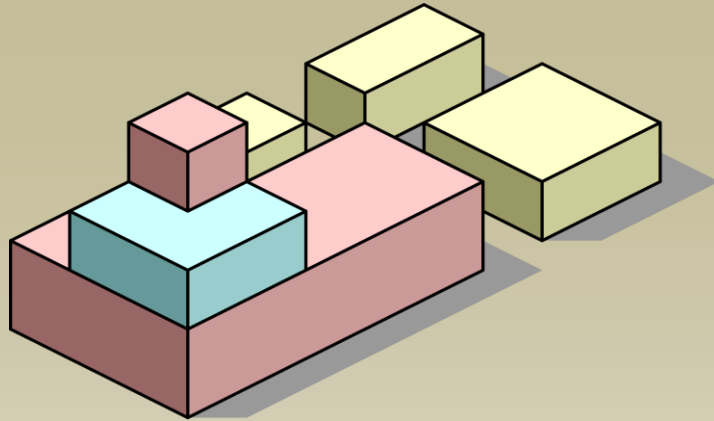
2 fills, 4 strokes

3 fills, 5 strokes

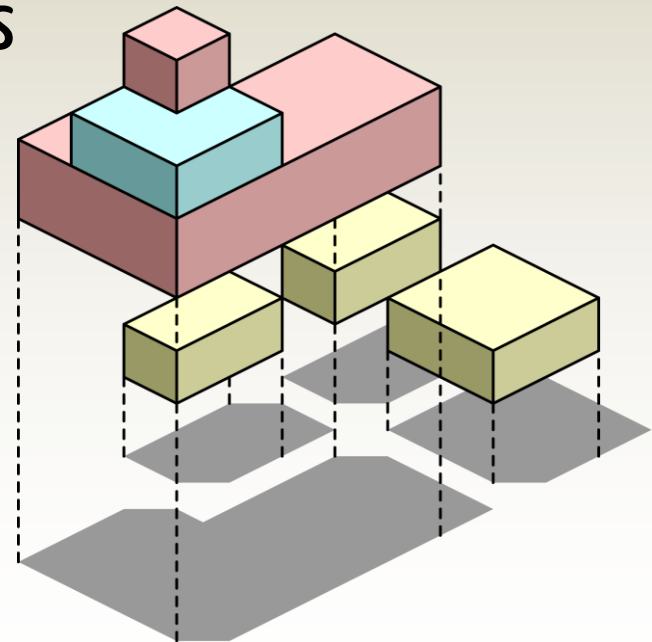


- Bottleneck fill rate: calculation over rendering

Layers



- Buildings: dynamic perspective & colors
- Basic: flat, simple, one color, few updates
- Shadows: one operation, few updates



Comparison

- No photorealism, but visually appealing
- Vectors, mobile devices
- Shadows, anaglyph 3d
- Critical performance
- No commercial team



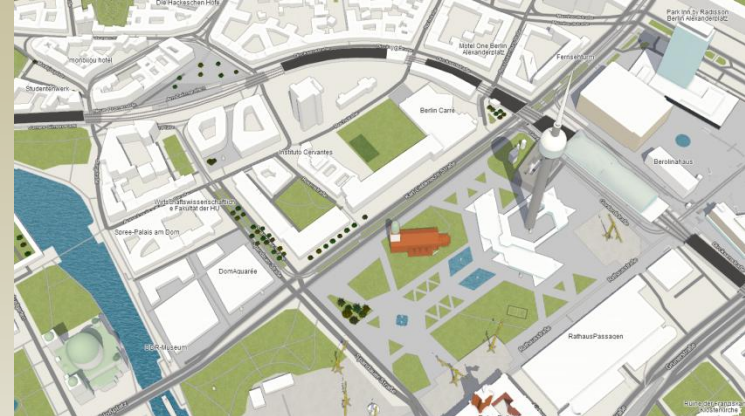
Here Maps

N.O.P.E.*

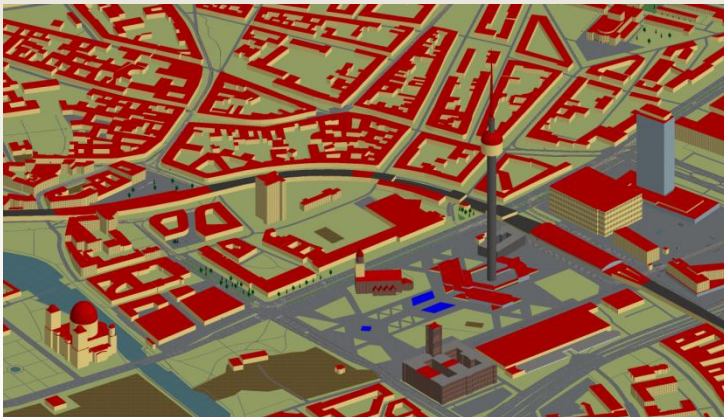
*) No Other Parcel Engine (please)



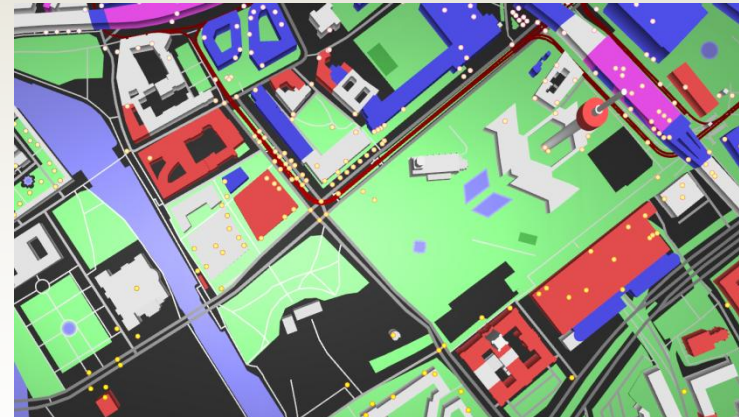
ViziCities - Fast ... and bright.



F4 Maps - Beautiful, but not open.



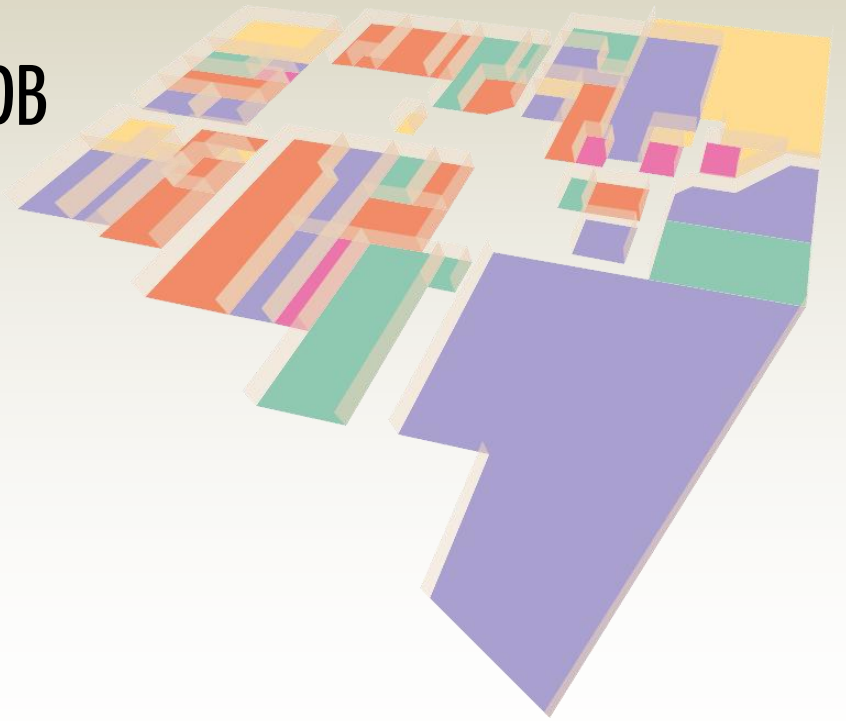
OSM2World - Very detailed but static.



Mapzen - Very new... and lets talk.

Planned

- WebGL rendering, higher LOD
- Building Data Repository
- Integration options with CartoDB
- Visual effects
- Additional map engines?
- Indoor mapping?



Links

- OSM Buildings.org osmbuildings.org
- LeafletJS leafletjs.com
- OSM Overpass XAPI overpass-api.de
- GeoJSON geojson.org
- CartoDB cartodb.com
- Here Maps here.com
- ViziCities vizicities.com
- F4 Maps demo.f4map.com
- OSM2World maps.osm2world.org
- Mapzen vector.io/vector-map