3D Beyond Buildings

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State of the Map 2018
OSM2World

- Open-source software
- Creates 3D models from OSM data
- Render models or export to .obj
OpenGL rendering
Game development

http://wiki.openstreetmap.org/wiki/SuperTuxKart
Virtual reality

http://forum.osm.org/viewtopic.php?id=20012
Video art
maps.osm2world.org
Simple 3D Buildings
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- building, building:part
- height, min_height
- building:levels, roof:levels, ...
Simple 3D Buildings

- building:colour, roof:colour
- building:material, roof:material
- roof:shape, roof:direction, ...
Simple 3D Buildings

- Defined in 2012
- Supported by lots of renderers
- Somewhat limited, but well established
Beyond buildings!
Road and Rail
width, lanes
lanes:forward
lanes:backward
sidewalk = both
sidewalk:right:width
sidewalk:right:surface
overtaking
change:lanes
highway = crossing
+ crossing[ref] = zebra
highway = crossing
+ crossing = uncontrolled
turn:lanes
Work in progress: area:highway
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Attempt #1: angle bisector at each node of the way
Work in progress: area:highway

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Combine angle bisector + relative length along the way and outline
railway, gauge, ...
Street furniture
advertising = billboard
height, width, two_sided, ...
amenity = bicycle_parking
+ bicycle_parking = stands
A lot more ...
leisure = pitch + sport = soccer
leisure = pitch
+ sport = tennis
+ tennis = single
attraction = water_slide
barrier = jersey_barrier
barrier = guard_rail
Implementation: Extrusion
barrier = fence + fence_type = trellis_work
barrier = fence + fence_type = railing
barrier = fence + fence_type = chain_link
barrier = wall + wall = gabion
barrier = wall
+ material = brick
+ height = 0.7 m
+ width = 0.4 m
power = tower
power = line
cables = *
man_made = flagpole + country = *
A lot more...

cooling towers, statues, lift gates, lockers, wall charts, life rings, racetracks, parking spaces, obelisks, phone booths, cell towers, lighthouses, gas stations, sewage plants, tree stands, rumble strips, vineyards, atms, airports, elevators, traffic lights, waterfalls, bobsled runs, ski lifts, playground equipment, water fountains, cameras, ferris wheels, watermills, traffic islands, chains, turnstiles, flood light poles, cattle grates, traffic mirrors
Beyond OSM?
3D Model Repository
3dmr.eu
1. Create a 3D model in .obj format (using Blender, SketchUp, ...
2. Upload it to 3dmr.eu
3. Link it with OSM

\[ 3dmr = 42 \]
Help welcome!
Help is welcome!

• Coding, e.g.:
  - support for additional features and tags
  - WebGL frontend development
  - osm2pgsql + tirex
  - new output formats
  - creative use cases (games, 3d printing…)
Help welcome!

• Lots of non-coding work:
  – topic experts
  – better textures and 3d models
  – render style improvements (e.g. localization)
  – distribution (e.g. Windows installer)
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- And, of course: More mapping! :)
