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Updatable Vector Tiles from OpenStreetMap

- Bachelor Thesis, Spring Semester 2016, Dept. of Informatics
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- Industry Partner: -

Introduction

In the previous semester thesis vector tiles from OpenStreetMap for Switzerland were created and publicly released. The feedback of the community confirmed the demand for downloadable vector tiles. Therefore it was decided to continue the project and further develop based on the feedback of the community. The most demanded feature was to provide regular updates to the vector tiles based on the Diff files of OpenStreetMap.

Goals

The primary goal of this thesis is to create a distributed process to generate vector tiles for the entire planet. These vector tiles should be compatible with the latest specification of the Mapbox Streets tileset.

As the OSM community adds constantly more data to OpenStreetMap the vector tiles quickly get outdated. Therefore the second goal is to implement the possibility to identify and update specific vector tiles which have changed.

Deliverables

- MBTiles files for the entire planet (snapshot)
- Update functionality to keep the vector tiles in sync with recent changes from OSM database
- Documentation:
    - The thesis will be written in English
    - The usual documents and rules of the dept. of informatics apply (e.g. poster in digital version)

Environment

Technologies: PostGIS, Docker, Message Queues

Preferred programming languages: PostgreSQL, Python, JavaScript, Bash

Evaluation

The thesis evaluation scheme there is a special emphasis of modern software development aspects.

Other involved parties

Consultation: Dr. Petr Pridal, Klokan Technologies GmbH, Unterägeri