Interdisciplinary Project (IDP) – Summer Semester 2017

Analysis and Visualisation of Real Traffic Data from API using OpenLR

Background
The research group of Urban Transportation and Traffic Signal Control of the Chair of Traffic Engineering and Control is developing, simulating and evaluating innovative traffic signal control methods. The future Urban Traffic Control (UTC) systems will utilize information coming from different data sources, not only from stationary vehicle detection (e.g. inductive loops). TomTom Traffic provides an Intermediate Traffic Service as an API that could be potentially integrated in a UTC system. A crucial part of the traffic information is of course the geographical representation of the streets. The Location Referencing system that is used for the extraction of detailed traffic information is, in this case, the OpenLR, which is an open source location referencing system. The reference implementation of the OpenLR system uses Java.

Goal
Goal of the IDP is to check the existing files (given in .xml and .proto format) that are already downloaded from the TomTom API and analyse specific streets and intersections. In particular, the given files contain traffic information for Italy but only the information for a specific area in the city of Verona has to be filtered out, analysed and visualized. The study area consists of 8 signalized intersections and the length of the main road is around 3 km.

Tasks
- Implementation of OpenLR to decode the location references from the existing files on a digital map.
- Filter out only the information inside the given area of interest.
- Analyse and visualize the results on a digital map.

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