Interdisciplinary Project ViM (Virtual Mobility World)

Developing the Data Analytics Component

**Context:**
The Virtual Mobility World (ViM) is a simulation platform intended to allow the investigation and simulation of different traffic scenarios and ad-hoc decisions in real time as well as the experimentation with novel driving functions on a technical level (for example, collaborative driving maneuvers). The input data can be real data, which can be combined with simulated data. The platform will thus provide the opportunity to complement and harness real data, make predictions based on that data, and to simulate and compare different mobility scenarios. A framework is created that can significantly improve the quality of data and mobility services and enable a realistic investigation of complex traffic scenarios. The data exchange between different components/use cases should take place via suitable interfaces.

![Suggested architecture of the integration platform](image)

The interdisciplinary project aims at implementing the interface between the (already existing) platform and the data analytics component.

**Tasks:**
- Development of a general concept and definition of the standard interfaces to connect different data sources (e.g. sensor data, census data, traffic data) to the platform (data pipeline)
- Definition of standards to handle different data formats
- Decision on (pre)processing methods and standard formats to generate valuable input for the simulations and experiments
- Alignment with the simulation team and users on how to handle input data and the expected output data
- Suggestions of KPIs for three different use cases and implementation of calculation methods to generate the KPIs
- Development of this analytical component and connection to the platform

Requirements:
- Good programming skills
- Interface development and implementation skills

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