

PSM SOFTWARE IMPLEMENTATION

Overview of the implementation of the Phenomenon-Signal-Model

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The Concept

The Phenomenon-Signal-Model is based on the concepts of facts and rules. The rules operate on facts. Every fact is represented by a node in a graph.

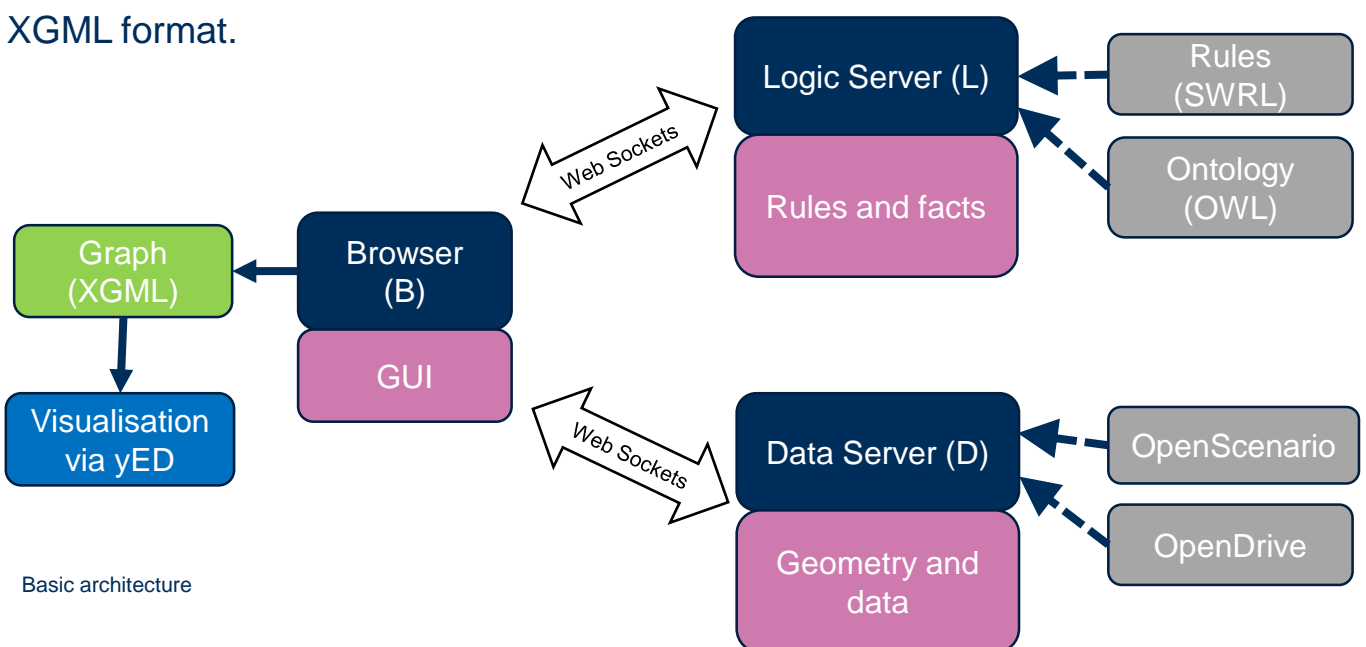
The PSM Graph builder implements this model by reading relevant geometry and road data from OpenDRIVE® / OpenSCENARIO® files, configures the scenario to be analysed by reading OWL files and applies the rules until no rule can be applied anymore.

Architecture

The PSM Graph Builder consists of three main parts:

- A *GUI* running in a Web Browser
- A *Data Server* handling road data and geometry (Python)
- A *Logic Server* handling rules and graph generation (PROLOG)

These components communicate via Web Sockets, the output is a graph in XGML format.



Basic architecture

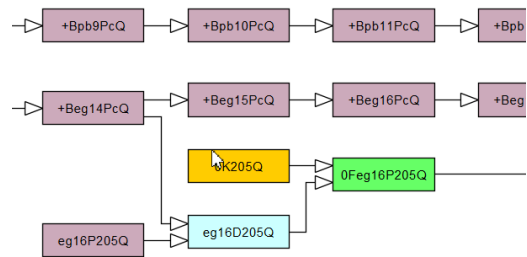
Usage

The PSM Graph Builder as of today is a demonstrator. Nevertheless the usage is simple and comprises these steps:

- Providing rules and OWL data
- Loading roads and agents
- Initialise the scenario
- Calculate the graph
- Open output in yEd or other compatible tools

Output

The Output is a graph in XGML format, and can look like this (subset):



Further development

Testing, more complex rules and graph analysis are planned.

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Projektpartner



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