Chair of Computational Modeling and Simulation
TUM Department of Civil, Geo and Environmental Engineering
Technical University of Munich

Software Lab:

Plotter plug-in for software test environment

Modeling:
Mathematics:
Programming:
Science:

Description

Air conditioning in vehicles is an important factor for a satisfiying driving experience. However, the software behind such systems is quite complex and error prone. A flexible test environment helps to find fix such errors. One important part of a test environment is a plotting tool to analyze the signal history of failing test cases.

A plotter with basic functionalites already exists for our python based test environment. However, we would like to extend its functionalites.
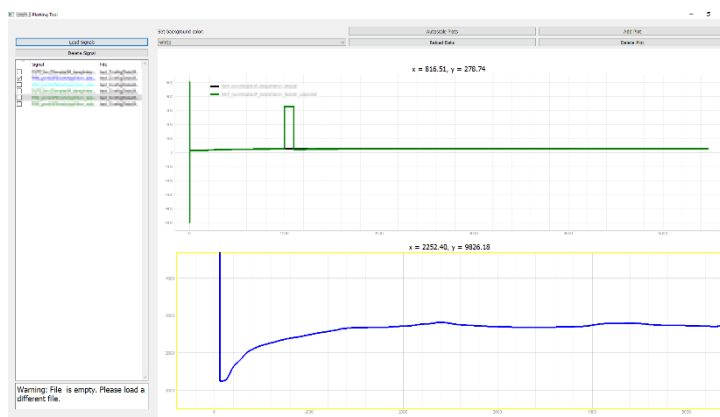
Task

Develop a plotter for our software test environment

- Make requirements for data interface and REST-API
- Implement a plotter with basic functions (e.g. signal comparison, tolerance, zoom-functions, data representation, multiple plots)
- Extend the plotter by various functions, e.g.:
    o Event Add-Ons (e.g. connection between test case and plotter)
    o 3D-visualization (e.g. heat map)
    o User experience (e.g. predefined layouts, live plotting during run time)
    o Data analysis extension (e.g. comparison with given functions, data filter)
- Requirements:
    o Independet application / plug-in for Python
    o GUI via PyQt / PySide2
    o Visualization via Matplotlib / plotly

Supervisor

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