

Software-based assembly sequence mapping



Bachelor's Thesis

Our goal is the profound control of systems and processes in networked product and high performance automation, intelligent building automation and pre-analytical processes in the laboratory. With more than 150 employees and 30 years of experience, STIWA Software inspires customers from various industries worldwide.

Motivation

A main focus of STIWA Software is the modeling of products, processes and resources (PPR) in a data model for the production of complex, mechatronic components with many variants and short cycle times (e.g. non-trivial components for the automotive industry). Since modern components are becoming more and more complex and consist of a large number of components, which can also differ depending on the design variant and are connected via different process steps, a suitable description language (DSL = Domain Specific Language) is required. In this context, a tool based on GoJS is used, in which the assembly sequence is modeled and mapped, and the objects can be reused in other tools.

Target

- Development of a domain specific application as a proof of concept for the modeling of the Bill of Process (BoP). This application is based on the GoJS software framework. Using different real use cases, the BoP can be modeled, edited and modified in this tool.

Tasks

- The modeling of the process sequence (Bill of Process) will be presented on the basis of specific requirements. A rudimentary description of the underlying DSL is available and will be made accessible in this thesis.
- Based on existing objects in a model (e.g. the products to be manufactured), sequences (linear, parallel, ...) can be defined with respect to the processes.
- The connection to various systems such as the plant modeling tool and the equipment list should also be considered.



PLEASE CONTACT US

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