

Bachelor Thesis / Master Thesis

Improving Simulation by Designing an easy-to-use Visualization App

Subject matter and motivation

Plant Simulation, developed by Siemens Digital Industries Software, is a tool for modeling, simulating, optimizing and visualizing production systems and logistics processes. It improves resource utilization and logistics planning and helps with the strategic planning of major investments. Despite its versatility, the complexity of the results presents a challenge for users without software knowledge. ¹

Objective

The aim of the thesis is to develop a front-end application that visualizes the results of Plant Simulation in an intuitive and user-friendly way. The front-end should support bi-directional interaction, that is, it should be able to not only display the results of Plant Simulation, but also send commands back to the software.

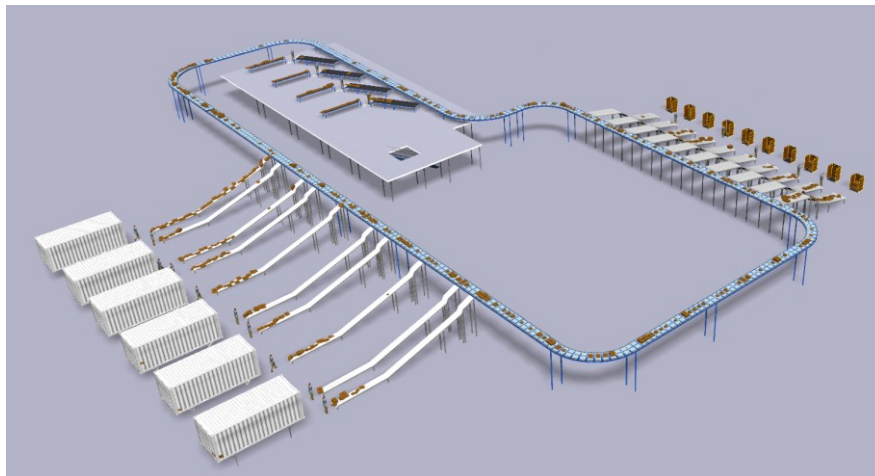


Figure 1: Plant Simulation is a powerful tool for simulating material flows, however, for users without prior knowledge, it might prove challenging in terms of operation and visualization

Structure and subtasks of the thesis

- **Literature research:** Conduct a thorough literature research to familiarize yourself with the topic.
- **Experimental design:** Develop a detailed experimental design that outlines the approach and methodology.
- **Development of a front-end prototype:** Design and develop a prototype of the front-end interface.
- **Bidirectional communication:** Implement and test bidirectional communication between the front-end and the Plant Simulation.
- **Documentation:** Document all research, implementation details, and test results.

Contact

Dr.techn. Dipl.-Ing. Max Cichocki
Inffeldgasse 25E, 8010 Graz
cichocki@tugraz.at
www.itl.tugraz.at