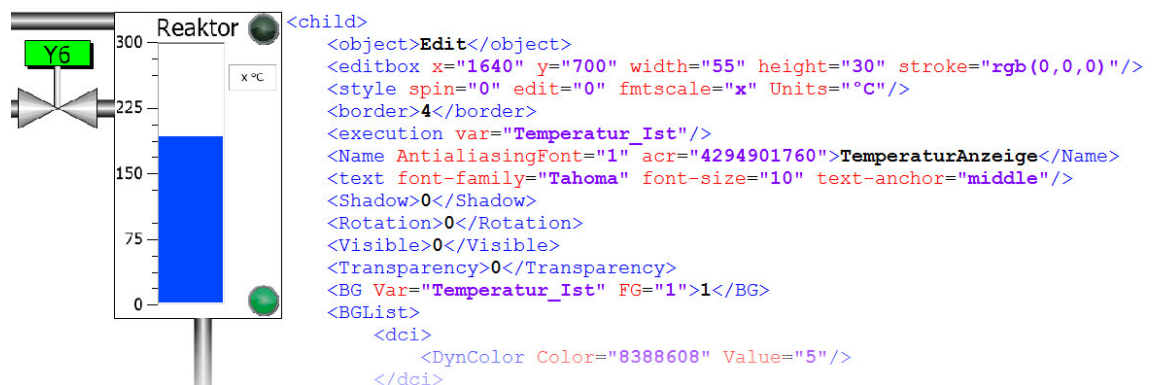




Analysis of the XML-Interface of the industrial SCADA visualization system Visu+

SCADA systems are common in almost every industry sector. SCADA stands for „Supervisory Control and Data Acquisition“ and describes a system whose function is to collect process data from the plant and provide this data for the supervision and control of the plant. The central element of a SCADA application is represented by the HMI – the user interface for operating and monitoring the plant. The industrial SCADA visualization system Visu+ by Phoenix Contact provides an XML interface for the development of a SCADA application. This interface may allow the automatic generation of a SCADA application in a model-driven workflow. The purpose of this thesis is the examination of this possibility by analyzing Visu+, especially its functionalities and its XML interface.



For this purpose, the typical functionalities of a SCADA system were analyzed and compared with the functionalities of Visu+. The functionalities were mapped onto the files of the project directory. It was also checked whether these files contain data in XML format. The files of the most important functionalities – for example the files for the configuration of the fieldbus communication and the process visualization – were selected for closer evaluation. Due to the central role of the HMI, the analysis of the visualization elements is a key aspect of the thesis. On basis of a case study, an approach for modifying elements of the visualization and adding a new screen to an existing visualization by editing the XML code was demonstrated. Finally, it was possible to create a new SCADA application just by manual creation of specific XML files in a new project directory and successfully start it in the runtime environment.

Tutor: Dipl.-Ing. Christopher Martin
Supervisor: PD Dr.-Ing. Annerose Braune
Day of Submission: 30.10.2015