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Titel des Beitrags: Modeling Order Effects on Errors in Object Oriented Modeling for Machine and Plant Automation from an Educational Point of View

Abstract: Our goal is to improve the handling of new possibilities given through object-oriented extension of the IEC 61131-3 programming techniques. We already know that modeling of structure is a challenge for automation engineers and often neglected. In an interdisciplinary research team we examined whether the modeling order with the Unified Modeling Language (UML) class diagram for the structural aspect and the UML state chart diagram for the behavioral aspects cause significant differences in model quality. Additionally, often occurring errors were analyzed to find hindering factors in modeling and to learn what was misunderstood. Therefore we combine usability aspects, notational and procedural aspects in PLC programming with learning and educational aspects to find how education and application of modeling notations could be improved.

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