



Diplomanden- und Doktorandenseminar
des Instituts für Informatik

Model based testing: Deriving Test Cases from Mechatronic System Models – SysML

Dipl.-Ing. Guy Collins Ndem, Siemens AG, München

Mechatronic systems are becoming central to Industry and Research. An increasing number of projects rely on the seamless integration of overly complex mechanical, electrical and software systems. Traditional engineering approaches, adopted in the construction of these systems in isolation are usually inadequate or do not scale to the complexity involved in the development of these systems of systems. There is a clear lack of approaches that support the combined challenges involved in the development of such multi-disciplinary systems. Novel approaches that support the integration of the different disciplines and concerns involved in the construction of such systems must be developed.

As a response to this increasing need, Governments, Companies and Universities are initiating projects, which goal is to research and develop novel techniques and tools for a synergistic integration of the different disciplines involved in the development of Mechatronic systems. Model-based system engineering is a key element of this initiative. Through the precise and multi-faceted specification of the different concerns involved in the design of Mechatronic systems, models provide an integrated way to tame the complexity of such systems. They support automated approaches in the different development stages of Mechatronic systems including: analysis, design, implementation, and validation.

In particular, model based testing (or MBT) is a methodology for specifying and validating complex systems. It guarantees the quality of complex systems by the automatic generation of test cases from system models. This approach not only saves developers time by the automation of tedious and error-prone test generation, but also improves test coverage, supports different optimization strategies, and achieves unprecedented control over different test parameters.

Montag, den 21.02.2011

12:30 Uhr in Raum 203, IfI, Hörsaalgebäude

Albrecht-von-Groddeck-Straße 7