MMT - A Web Environment for Education in Mathematical Modelling and Simulation

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The MMT- web server constitutes a surface to enable students to get in touch with simulation and modelling in a fundamental and user-friendly way. Simulation and modelling have become elementary skills for various fields of study in the recent decades.

To help students to strengthen their first modelling experience, examples concerning linear algebra and analysis are provided by the MMT server. Students of electrical engineering and geodesy and geomatics engineering are able to train their just gained skills in basic mathematics by solving given problems and comparing their results to the output of the example on the MMT server. Students in higher semesters of technical mathematics or computer sciences with deep going mathematical foundation can concentrate on high-level models based on differential equations or econometrics.

Most examples on the MMT server are implemented in MATLAB. The user has permission to gain every source code and download it to be able to follow the mathematical background and assembling of the given problem and possibly adapt and extend the program on his computer. On the server itself one can adjust most of the parameters of an example so effects of small data modification can easily be observed.

Besides training modelling skills, the MMT server can also be used in exams by testing the student's ability to follow the consequences of data modification on the model.

Contrary to the given impression, the MMT server does not depend on MATLAB itself. Programs in other languages like octave can be linked just as well and after successfully integrating Simulink, it won't take long until Simscape, MATLAB's physical modelling toolbox, as well as Java applets are embedded into the MMT server.