SimTech
Semesterabschluss-Vorlesung

- Title: WEB 4.0: Information? Communication? Simulation!
- Speaker: Prof. Dr. rer. nat. Ernst Rank
  Chair for Computation in Engineering
  Technische Universität München
- Time: 10 February 2010, 4:00 pm
- Venue: Lecture Hall V9.01, Pfaffenwaldring 9, Campus Vaihingen
- Abstract: How will a future World Wide Web support research and technology? Despite the vast importance of Internet-based information and communication, numerical simulation as the ‘third column’ of science and engineering only takes little advantage of Web technologies today. Consider for example typical simulation chains in engineering, like those from CAD for setting up a geometric model to FEM for a structural analysis. It is common practice to communicate the output of one module of this chain via the Web to the input of the next. Yet, due to inconsistencies of model semantics in these different modules this mere transfer of data is very often responsible for a significant loss of information and a lack of support for computer assisted collaboration.

A much closer interconnection of numerical simulation and a future Web should be possible. Especially attractive are supportive technologies for a world-wide cooperation in engineering practice as well as geometry based web services. This talk will show first conceptual experiments on the integration of construction information models into Google Earth, on a web-based decision support system for pedestrian evacuation in disaster management and on a collaboration platform for interactive numerical simulation. Once a seamless integration of the Internet and advanced numerical algorithms is successful, a future Web can be a perfect basis not only for information and communication, but also for a world-wide simulation-based collaboration in science and engineering.

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