

## Development of Adaptive Multimedia Educational Material

In April 2001 the joint project "Wissenswerkstatt Rechensysteme" (WWR) (knowledge factory for computing systems) has been started. The project will go on for three years. The team consists of twelve German universities, two research associations and an industrial partner under leadership by the University of Rostock. The project is supported within the program „Neue Medien in der Bildung" (new media in the education) by the German Federal Ministry for Education and Research.

Multimedia training systems become more and more important in the future, since the costs for reproduction and distribution of digital media are contrary to conventional teaching materials (books, films etc.) comparatively small, and the use of the internet is increasing. Numerous individual multimedia systems are already existing to support teaching and learning. However, these are mainly isolated and heterogeneous solutions which are not re-usable under different terms of education.

The main objective of the project "Wissenswerkstatt Rechensysteme" (WWR) is the provision of teaching and learning modules, which may be easily adapted to different demands, combined to courses and published for common search engines and commercial services. Each module is scalable in three dimensions: intensity respectively size, target group and output format, and contains educational material for about 4 weeks of lessons. The created multimedia modules can be used within an internet-based teaching and learning environment online or offline. As result of the project about 150 multimedia teaching and learning modules will be available. They will cover a substantial spectrum of technical computer science, among them the mathematical and technical bases, computer architecture, computer networks, operating systems as well as special architectures for parallel processing or the internet. The authors of a module will add comments to its components, that allow to derive for which intensity type they are suited. The basis for the implementation of these modules is the Extensible Markup Language (XML).

The participation of partners from outside the university is ensuring a high quality of the developed material regarding to content, design and didactical-educational criteria. A continuous work between all partners is ensured by periodical team meetings. The results are frequently presented on different national and international conferences.

<http://www.wwrproject.de>

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