MultiMedia in Architectural Education

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Abstract.
Introduction
Developments in the field of Computer Science and Architecture are leading to new relationships between these two areas, which should influence architectural education. I would like to present a model in which the new possibilities of computing in the field of multimedia are experimentally introduced in architectural education.

[keywords : multimedia, video, intelligent buildings, autonomous buildings]

Computer
Developments in Computer - Hardware and - Software show a clear trend towards more intuitive use of computers.
Progress in hardware has resulted in the integration of different media, like audio, video, speech, telecommunication, new input devices or new display devices. On the side of software one can make out developments in multimedia environments with graphical, audio-visual interfaces, the integration of different systems for images, video or sound editing, CAD, DTP, animation, simulation and different expert tools on one database platform with multiuser abilities. Besides the integration of different media, one interesting area for us is the increasing dynamics of information. Thus animation gets more and more important in contrast to just graphics.
In the last years especially the offer of multimedia products is increasing and the price becomes affordable for universities.

Architecture
The architectural planning process in its individuality and uncertainty is characterized by the integration of different media and planning instruments and thus it can be called multimedia Based. The described possibilities of computers fit more and more these characteristics.
The more it fits, the more one can think about a real introduction of computer facilities in creative areas like architecture, especially ill early design stages.

In architectural discussions dynamic aspects become increasingly important. First there is the new understanding and sensibility for the environmental behaviour, for the energy and
material flow of buildings and its influence on planning in the form of simulations and lifecycle studies. Second there is a speeding up of social movements and the change of social needs which makes it nearly impossible to fix problems over time. Third, the increasing integration of industrial production methods to architecture changes the architectural planning towards a more strict time management, just in time production and parallel and cooperative design. Last but not least, the increasing number of "intelligent" building components, such as "intelligent" facades, new airconditioning installations or fire control and access control systems, make the building structure itself "moving". All this leads one to the conclusion that architectural planning can't be fixed any more to one single result, but instead of this should see its further step in the process and control of this dynamics. Temporal behaviour of buildings, components and building material during their daily, yearly, usage cycles as well as the entire lifecycle becomes a new and important dimension in the architectural planning process.

_Zukunftswerkstatt : Neues Planen mit Neuen Medien_
(Factory of the Future : New Planning with New Media)
The described developments in the field of computer and architecture are in their preliminary stages. One can only make out the phenomenon of convergence of these two areas, but it is not yet possible to give any professional solutions. It is still a big field of experiments, of testing, how out-thinking about architecture, how the planning process will be influenced by the new media.

Since 1992 the IFIB has focused on this problem. It has assigned different design problems of an experimental character to the students. The task has been to design, emphasizing the dynamic processes in architecture with the new dynamic tools, mostly using animation and multimedia techniques. The students are working with all media, like hand-sketches, CAD drawings, video and sound, texts and photographs, which they combine through the design process into computer animation. The final presentation medium is a videotape. This educational approach is integrated into the year's research effort of the IFIB in the field of CAAD. Our research on this area has made clear the importance of multimedia for all integration questions in the architectural planning process and the meaning of interfaces between man and computer.

_Selection of design problems_
intelligent buildings, working tables, of the future,
design space,
autonomous structures
threedimensional cities

_Illustrations_
video frames of Christian Ziegler
Technical equipment

hardware:
ethernetwork of 1 Macintosh Quadra 700 (video-in, -out, sound-in, -out, MIDI),
7 Macintosh Ilci
scanner, lprinter, video recorder, camcoder, videocutter, TV, CD, MC

software:
MacroMindDirector, SoundEditPro, Premiere, ModelShop, InfiniD, SwivelMan, FormZ,
Architrion, MiniCad+, PhotoShop, PageMaker, MSWord, MSExcel etc.