

Using the World Wide Web as a Communication and Presentation Forum for Students of Architecture

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Keywords

Virtual Design Studios, Architectural Graphics, Presentation Techniques

Since 1997, the Institute for Industrial Building Production (ifib) has been carrying out upper level design studios under the framework of the *Netzentwurf* or Net-Studio. The *Netzentwurf* is categorized as a virtual design studio in that the environment for presentation, criticism and communication is web based. This allows lessons learned from research into Computer Supported Cooperative Work (CSCW) to be adapted to the special conditions indigenous to the architectural design studio [Forgber, Russell]. Indeed, an aim of the *Netzentwurf* is the creation and evolution of a design studio planing platform.

In the Winter semester 1999-2000, ifib again carried out two *Netzentwurf* studios. involving approximately 30 students from the Faculty of Architecture, University of Karlsruhe. The projects differed from previous net studios in that both studios encompassed an inter-university character in addition to the established framework of the *Netzentwurf*. The first project, the re-use of Fort Kleber in Wolfisheim by Strasbourg, was carried out as part of the Virtual Upperrhine University of Architecture (VuuA) involving over 140 students from various disciplines in six institutions from five universities in France, Switzerland and Germany. The second project, entitled "Fu-

ture, Inc.", involved the design of an office building for a scenario 20 years hence. This project was carried out in parallel with the Technical University Cottbus using the same methodology and program for two separate building sites.

At the beginning of the semester, the students receive a three day intensive crash course in HTML and the preparation of text and graphics for the web. The following weeks are structured with regular assignments in order to support the technical side of using HTML as a presentation medium. At the same time, architectural assignments such as scenario description, room or energy concept development and urban design analysis are given out so that the design itself does not stagnate. The students are supported by a team of tutors as well as through "Netzpaten" who provide independent feedback as to the effectiveness of the students' work. A common misconception is that the *Netzentwurf* entails the use of CAD tools in the design process. Although ifib offers a range of CAD and Digital Media courses, the structural focus of the *Netzentwurf* is the planning platform and its effective use. The students are encouraged to sketch, build working models and generally continue to design as before (including using CAD if that is how they choose to work), but



Figure 1:
Zukunft GmbH – “Cyber-
Soap-Studio”, Stephanie
Knebel

are also required make these models, sketches and drawings accessible through the world wide web.

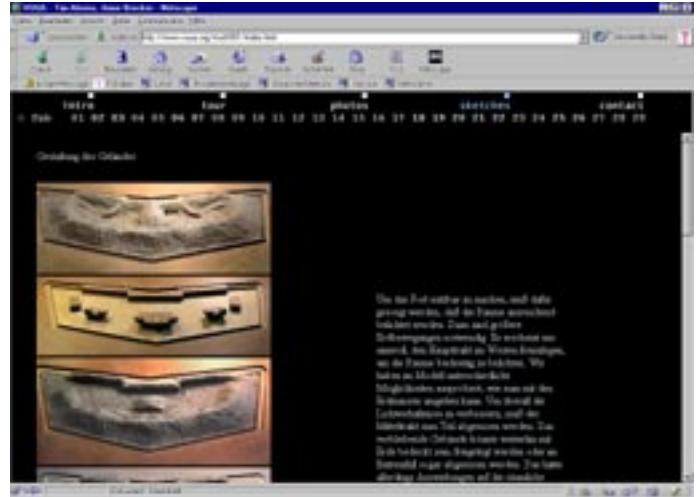
There are no set requirements or structures for the web pages the students create. Their mandate is to communicate their ideas as they best see fit. This lack of structure can be overwhelming for some students, but has also resulted in new types of architectural graphics through the use of HTML, JavaScript, Applets, Shockwave and Flash. [Russell et al] The 3 year legacy of student work has a very high level of presentation and graphical design. This has, quite naturally, led to a certain amount of Darwinism in the Netzentwurf. Where students were content with HTML and some JavaScript two years ago, they now feel that a Flash 4.0 animation is the minimum for a good presentation. This evolution has resulted in some exemplary work, but has also led to the neglect, in many cases, of the architectural problem itself. In one or two instances, the students concentrated solely on their presentation for almost half of the semester which led to beautifully presented but rather thin design solutions.

The experience at ifib over the 9 Netzentwurf

projects to date has shown that certain constraints of the platform itself have led to a different quality of architectural design. Among these are the relatively small presentation area (compared to a large architectural plan), the problem of consistence, readability and logic across the individual web pages of student's work and the technical problems (including browser versions, language sets, and operating systems) inherent in the heterogeneous nature of the internet. Working with or around these problems results in a definite reduction in the time available for the architectural design.

In order to better gauge the students' perspective, a questionnaire is handed out at the end of the semester. Almost unanimously, the students have valued the Netzentwurf as an important and positive experience. The chance to use new presentation techniques, the dialogues with the Netzpaten and the deepening of their knowledge about various computer programs were strongly praised. Additionally, the ability to continually present their work to a wide public was cited as an important skill learned.

Figure 2:
Fort Kléber, Wolfisheim,
France – Tim Ahrens and
Anne Brecker



Contrarily, the large amount of time invested in the project and the continual need to solve technical problems were declared as quite negative aspects of the Netzentwurf. As well, the interdisciplinary collaboration was often impeded by the differing timetables and inadequate coordination between the various schools. This problem is perhaps not directly related to the Netzentwurf itself, but the differences in the pedagogical systems were intensified through the use of the platform.

Consultation and criticism by the tutors was, despite the availability of chat rooms, newsgroups and email communication channels, almost exclusively done in face to face situations. Only in cases of large separation (over one hour travel time) were these methods used. Quite simply, the face to face communication has a much larger bandwidth as well as a "human" component which is irreplaceable. Although the Netzentwurf platform is not intended to replace the physical presence, it was thought to be able to better extend the communication between participants.

A selection of the questions posed provoked the following responses (with 23 completed questionnaires):

- Would you take part in the Netzentwurf again?*
Yes: 83% – No: 7%
- Would you recommend the Netzentwurf to a fellow student?*
Yes: 96% – No: 4%
- Taking part in the Netzentwurf is, according to your experience:*
Important 57%-30%-13%-0% Not Important
- The additional work to create and maintain your web site has impeded your design work:*
No Hindrance 4%-4%-44%-48% A Hindrance
- Do you see an advantage in working on the internet with respect to gaining information?*
Advantage 48%-26%-22%-4% No Advantage
- Do you see an advantage in working on the internet with respect to communication with the tutors?*
Advantage 18%-45%-23%-14% No Advantage

The full results are available on the internet. and will be constantly updated as more responses from past students accumulate.

Three studios planned for the summer of 2000 will perhaps better illuminate where the limits to web based communication lie. In these Netzentwurf studios, students from 3 separate Universities (Technical University of Cottbus, the University of Kaiserslautern and the University of Karlsruhe) will take part in studios at the other universities without leaving their own institution. These students will receive architectural criticism solely from the institution running the studio thus necessitating the use of the platform. Its success will depend heavily on the ability of the tutors to maintain the dialogue with their students over the internet. In each studio, the semester will start with an intensive workshop on site where all participants will be physically present. This will help to create interpersonal relationships upon which the participants can further build.

As well, the students will all initially receive a template web site. This template will allow the students to quickly place their sketches and photographs on the net without the need to first write HTML or JavaScript. This, it is hoped, will help to channel some of their limited time back towards the architectural problem. A technical course will be held later in the semester so that those who wish to, can modify or replace their web sites.

In light of the technical aspects of presentation with HTML, the Netzentwurf has proven to be a true challenge for most of the students. Further, the placement of the student work in the public realm raises questions about the nature of the graphical language to be used in simultaneously conveying ideas to fellow students, the tutors, other experts and the general public. This certainly has played a role in the tendency of the architectural graphics to be simpler and easily read. The influ-

ence of current web design in general has also led to a graphical patina being placed on top of or in conjunction with a more traditional architectural graphical language.

In spite of the hurdles and problems stated, it has been possible to establish design groups spanning different disciplines, countries and languages. The heterogeneous constellation of participating students has helped to foster web based communication skills that are portend to successful professional careers. Indeed, it could be said that the Netzentwurf has been a realistic simulation of the collaborative process and its attendant problems in coordinating goals, schedules and technical constraints.

Links

Netzentwurf Platform:

<http://www.netzentwurf.de>

ifib

<http://www.ifib.uni-karlsruhe.de>

Netzentwurf Questionnaire

<http://www.ifib.uni-karlsruhe.de/en/netzentwurf/>

References

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