# The E-Talier: Inter-university Networked Design Studios

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**Keywords**
e-Studio, virtual design studio, courseware, cscw

## Abstract/ Preface

The widespread infiltration of internet based variations of traditional areas of society (e-commerce, e-business, e-mail etc.) will not spare the halls of academia in its propagation. The term courseware is well nigh 20 years old and considerable research and development has been done in bringing network based distributed courses to university consortiums including those in architecture and civil engineering. Indeed, the European Commission has recently approved funding for a 3-year web-based virtual university of architecture and construction technology: the WINDS project led by the University of Ancona [De Grassi]. Such attempts to create e-courses are largely an extension of typical courseware where the syllabus is quantified and divided into lessons for use by the students alone or in conjunction with their tutors and professors. This is quite adequate in conveying the base knowledge of the profession. However, the tenants of being an architect or engineer involve the deft use of that unwieldy named and deliciously imprecise tool called "design". Teaching design sooner or later involves the design studio: a pedagogically construed environment of simulation intended to train, not teach the skills of designing. This is fundamentally different from normal courseware. A network based design studio (Etalier) must be able to reflect the nature of learning design. Design studios typically involve specifically chosen design problems, researched supporting information to assist design decisions, focussed discussions, individual consultation and criticism, group criticism, public forums for presentation discussion and criticism as well as a myriad of informal undocumented communication among the students themselves. So too must an Etalier function. Essentially, it must allow collaboration through communication. Traditional barriers to collaboration include language, culture (both national and professional) and distance. Through the internet's capricious growth and the widespread use of English as a second language, the largest hurdle to attaining fruitful collaboration is probably cultural. In the case of an Etalier in a university setting, the cultural difficulties arise from administrative rules, the pedagogical culture of specific universities and issues such as scheduling and accreditation. Previous experiments with virtual design studios have demonstrated the criticality of such issues. The proposed system allows participating members to specify the

degree and breadth with which they wish to partake. As opposed to specifying the conditions of membership, we propose to specify the conditions of partnership. Through the basic principal of reciprocity, issues such as accreditation and work load sharing can be mitigated. Further, the establishment of a studio market will allow students, tutors and professors from participating institutions to partake in studio projects of their choosing in accordance with their own constraints, be they related to schedule, expertise, legal or other matters. The paper describes these mechanisms and some possible scenarios for collaboration in the Etalier market.

## Overview

The paper proposes a system and mechanism whereby schools of architecture and construction technology can collaborate to form internet based design studios varying in length, intensity and number according to the will and ability of each participating institution. Being fundamentally libertarian in nature, the traditional hurdles to collaboration will be reduced through democratic mechanisms based on equality, trust and freedom.

The goals of the Etalier are rooted in the changing economic and professional landscape facing young designers. The use of new technologies and collaborative practices will better prepare the students for the kinds of work situations and challenges facing them upon completion of their studies. In this sense, the Etalier is intended to awake an awareness of the changing professional situation as well as train for the dynamic planning often encountered in architectural design. Additionally, the students will become familiar with the technological particulars of distance co-operation through the goal oriented nature of the Etalier.

The vision is one of a truly virtual institution. The Etalier is the collaboration between the partners and not as a separate entity. There is no place for Deans or other administrative heads as the program consists only of the design themes offered by the participating institutions. Students remain registered at their home institution and accreditation is a matter for the home institution only. Through peer reciprocity, the need for bureaucratic overheads, agreements and contracts is effectively eradicated.

The Etalier is, at its core, the placement of the design studio environment on the internet. This important step allows for the extension of the design studio both in terms of the student/tutor relationship and in the studio's boundaries. Several schools of architecture and engineering have, over the past few years, experimented with virtual design studios in various guises and configurations. [Forgber, Russell] [Donat et al] [Velasquez] The methods and pedagogical concepts used have been well documented and initial conclusions as to the effect of the virtual design studio on student design are being drawn. [Elger, Russell]. Overall, the experience of collaboration over the internet appears to be positive despite doubts as to its effect on the quality of the design. This behooves further development of the Etalier or virtual design studios. However, most, if not all, of the net based studios to date have been one-off in nature. These studios have involved a large outlay in time, energy and monies in coordinating the cooperation and interaction at all levels. This paper effectively describes a system or market for virtual design studios that reduces the administrative overhead and enables much more flexible co-operation among the schools.

## The Market

The umbrella aspect of the Etalier is the course market. The participating institutions will offer their courses or studios to the Etalier community. The

syllabus of each design assignment will explain the goals, expectations, schedule and methodology of the studio. It will also state who is running the course and to what extent the studio is open to other institutions.

Additionally, institutions taking part in the Etalier will describe competencies they possess and that will be made available to the participants of chosen design assignments (e.g. Design Criticism, Energy Concept Development, Life Cycle Analysis, Structural Analysis). The tutors or experts will then act in a consulting role to the students in the Etalier.

## The Studio

The virtual design studios themselves will be run by one or two professors and accompanied by specific supporting tutors and the Etalier community in general. The individual students will be able to apply to participate in studios of their choice and then through either selective placement or a weighted draw, be assigned to a studio. Some studios may allocate a certain proportion of their places to students from other institutions as they see fit. The students will then follow the syllabus, independent of their location, using the Etalier platform to complete the design assignment. The studio organization is left broadly to the organizing institution. In addition to the core design assignment, the organizers may elect to include other tasks based on the catalogue of available competencies in the Etalier community.

## The Platform

The coursework and studios will be internet supported and primarily displayed in HTML. The Platform will include studio specific information as well as general information about the Etalier itself. Each student or student group, will receive disk space, either locally or on the platform, where they will store and make available their design solution. The platform serves an intelligent portal to the database of information created by the Etalier community. The platform will also be able to log the participants and make known the simultaneous presence of relevant participants (i.e. students from a common studio) and facilitate chat like communication within the platform itself. Other forms of net based communication (Chat, webcams, videoconferencing etc.) will also be connected to the platform. It will also provide service functions such as calendar co-ordination (i.e. arranging consultation meetings) and automatic notification of relevant events. In addition to providing basic support, the platform is geared toward creating a community of design students, tutors and experts involved in the building process.

One of the main advantages of the Etalier concept is the flexibility and adaptability it offers the participating institutions. The concept is without an administrative level. The tutors and their institutions are placed equally about the course market. Each institution will decide for themselves as to which level of involvement they wish. This will allow the schools and tutors to offer places and consultation according to their own resources. The one caveat is that no school will be able to place more students than they offer places. Certain support functions will need to be filled, but these must be from independent organizations in order to ensure the independence of the Etalier from any one institution.

Students will remain registered at their own schools and with the approval of their local tutors, be able to participate in the Etalier studios, independent of their location. This will remove administrative overhead often associated with exchange programs and other inter-university activities. The home institutions retain the overview of the student's syllabus and can allow students to participate in studios offered as they see fit. Various sce-

narios of student involvement become possible through the relative unimportance of physical location. In any case, the students remain registered at their home institutions and maintain contact with their home tutors as well as with those running the studio. Approval to participate remains with the home institution thus ensuring that the external studio conforms to the home institution's academic program.

## Timeline

### *1. Workshop*

The Etalier cycle initially starts with an open meeting of interested institutions such as the INDeS workshop held during the eCAADe 2000 conference in Weimar (Russell, Forgber). Here, the goals and general rules of engagement as well as the long term visions of the Etalier environment will be debated. Upon completion of the workshop, a set of guidelines for instructors will be published as part of the platform. It is foreseeable that similar workshops will be held twice annually in order to allow feedback to help evolve the Etalier concept as foibles or strengths of the platform are discovered.

### *2. Ring Establishment*

Based on the outcome of the workshop, institutions may elect to participate or withdraw from the Etalier. This decision will likely take place each semester as the conditions in each individual institution are oft susceptible to differing political, financial and personnel situations.

### *3. Studio Declaration*

Institutions offering design assignments will then make these public along with attendant descriptions of the assignment, expectations, methodology and timeline. The declaration will also describe the level of collaboration the host institution is willing to undertake, (i.e. the number of external students). Based on these declarations, institutions may wish to jointly undertake design assignments or support others through competency based consultation to the students. After a period of negotiation, the involvement and co-operation among the institutions at the tutor level will become set in the syllabus for each studio.

### *4. Local Mapping*

Each participating institution will then be able to decide, based on the syllabus of each studio, how to recognize work done in each studio (if at all) based on their own curriculum and accreditation procedures. This will complete a double filter starting with the issuing institution's willingness to offer courses externally and finishing with the local institution's readiness to accredit work done by their students in that studio. Clearly, interpersonal relationships among the professors and tutors will have much to do with this peer reciprocity as the content of the studio itself will. This reinforces the value of the semi-annual workshop.

### *5. Student Application*

The students registered at their home institution will be able to apply for placement in the studio of their choice (in accordance with the studios officially recognized by their home institution). The students will all list their choice of studios from most desired to least desired in accordance with the system developed by Jean-Charles de Borda and thus, ensure a fair distribution of studio places [Saari]. Ideally this will take place simultaneously, however overlapping institutional timetables may necessitate asymmetric student placement. The conflict between the desire to place students fairly, yet respect the timetables of the various institutions is one of the most difficult logistical hurdles to be addressed in establishing a successful market.

***6. Placement***

Based on the "Borda Count" and, where needed, a lottery selection, the students will be allocated to the highest possible studio according to their own ranking. The students will then be issued an invitation to take place in the studio. The students may then decline the invitation or accept it and enter effectively into an agreement to undertake the assignment. A second round of placement may be needed to place the students that did not accept their the initial placement offered.

## Proposed Studio Guidelines

The following guidelines serve as a starting point for workshop discussions. They are not regulations but rather, a possible way of running the individual studios in accordance with the principals governing the Etalier market.

Upon completion of the placement process, the individual studios will start to run according to the published syllabus. While the structure of the studio is left completely up to the organizing institution(s), it is recommended that the studios start with a common workshop where all participants are physically present. This has proven to be a very positive factor in fostering interaction among the dispersed participants. [Koch, Russell] It is possible that some students will not be able to participate in the workshop due to time conflicts or financial reasons. Through net based communication techniques and effective documentation of the workshop, it is possible to minimize the exclusion of these students from the collaborative planning process.

Further, the syllabus should be construed so as include assignments in the preparation (first) and dissemination (last) phases of the studio. This will allow students based in institutions with dissonant timetables to start work before other students or to continue work after other students have completed their semester. Pre-studio activities can consist of workshop preparation for the design assignment in the form of a short paper, the creation of a project database as well as site and/or building documentation. Post-studio activities will mostly consist of publication preparation but can also include design analysis of proposals either individually or as a group. To be sure, there will be offsets in timetables which will be so large as to preclude cooperation between the institutions, however it is expected that these will be filtered out in the Local Mapping phase of the studio market.

Lastly, the establishment of an Etalier community will rely on universal access. It is for this reason that the student's work must be presented with HTML. To be sure, the students will push the bounds of net based presentation techniques including the use of plug-in graphics (Flash and Shockwave) and interpreted programming (JavaScript and Java Applets) which preclude certain proportions of the public from viewing the work. The principal of universal access, however, will help to reign in the wildest techniques to create a balance between universality and innovation.

## The Platform: netzentwurf.de

The methods described in this paper are currently being used in a trial semester involving the University of Karlsruhe, The University of Kaiserslautern and the Technical University of Cottbus. In light of the timetable problems, the lottery aspect of the student placement is being circumvented through the allocation of a certain number of positions for external students. A further restriction of the Summer semester Etalier (or "Netzentwurf" as it is known in Germany) is the complete separation of support and consultation. Local tutors will be available only for technical support and all design related support will be carried out by the studio's organizing institution. It is hoped that through

these restrictions, the organizers and participants can gain a better understanding of where the strengths and weaknesses of net based design studios lie.

Netzentwurf Platform:
http://www.netzentwurf.de

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