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WORLD WIDE WEB PRESENTATION OF COLLABORATIVE STUDENT DESIGN WORK

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Abstract

Inspired by presentations made at the last ECCADE conference of collaborative work by students at a number of schools of architecture who were using the Internet as a form of virtual studio, a network for a collaborative design project was set up between the schools of architecture in Bratislava, Graz and Luton. This paper takes the form of a multi-media presentation of the results of this collaborative project, carried out on-line via the World Wide Web site at the University of Technology in Graz. In addition to presenting the design solutions produced during the project, the paper analyses the technical difficulties encountered with file transfers, assesses the participants ' experience of using the Internet as a medium for collaboration, evaluates the educational validity of the project and outlines proposals for the future development of collaborative activities by the group.

Introduction

At the 1994 ECAADE conference in Glasgow, papers were presented which described collaborative student design projects using the Internet as the primary method of communication, based at centres in Hong Kong (Bradford, Cheng, and Kvan 1994) and Eindhoven (van Grootel 1994). In their paper on CAAD in Slovak architectural education (Kosco and Furdik 1994) the Faculty of Architecture at the Slovak Technical University expressed the view that the Internet represents a potentially highly effective means of co-operation in the field of CAAD education and research. We wanted to explore this method of connecting educational institutions, and exchanging in a dynamic way information and ideas on the application of CAAD technologies to architectural design and education.

Following a visit by members of staff at Luton to both Bratislava and Graz in February 1995, a collaborative project was set up based upon a development project in Luton. The project was modest in its aims, and written for undergraduate students in their first and second years. It involved the conversion of a disused water tower in Luton. The water tower is constructed in a distinctive English Arts and Crafts style, and as a "listed" building is

subject to conservation development control. It is located in an urban setting. The project therefore encompassed a range of interesting architectural issues connected with context, conservation, and physical and formal constraints.
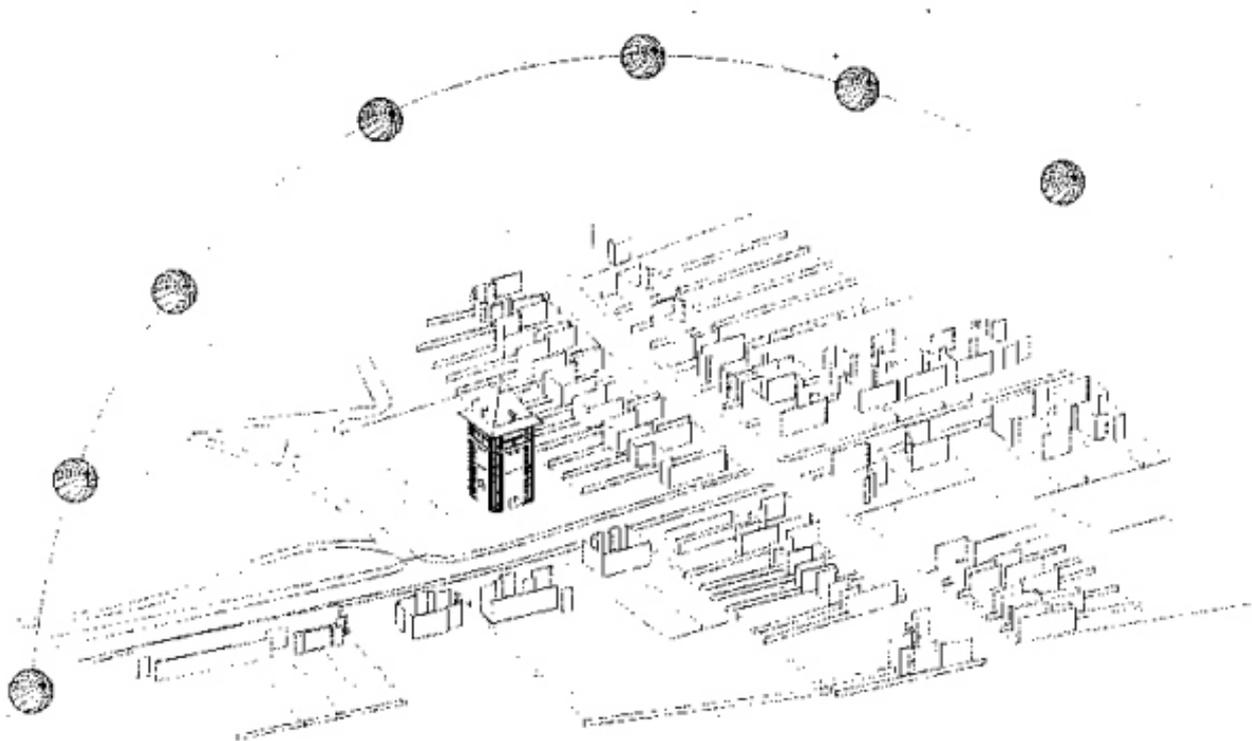

Figure 1 - Bailey Hill Water Tower, Luton

Design Brief

The main architectural focus of the project was the development of design proposals for the conversion of the building into a design office for a graphic design company, with domestic accommodation for the husband and wife partners. One student from Luton and one student from Graz elected to undertake the project in lieu of their normal studio programme. At Bratislava a group of six students worked on the project. The aim was for each centre to produce their own unique design proposals using CAAD techniques for assessment at their own centres, but with full exchange of ideas and concepts with the other students and teaching staff in the network. Shared feedback and criticism of the designs produced was also an aim of the exercise.

The Studio

Our aim was to run the project in much the same way as any other studio in an architectural school. Design information was exchanged in various electronic media formats, including text and CAAD files, using a variety of Internet file exchange methods, such as electronic mail and file transfer protocol. No restriction was placed upon the type of information exchanged between the students. In order to maintain easy compatibility of information AutoCAD was selected as the software standard for the project.

Practical problems arose in several areas. It was not easy to enable the students to interact directly with each other, as they often did not have direct access to EMAIL and FTP facilities. In the early stages nearly all communication was through the members of staff involved at the different institutions. In some cases the students did not have sufficient knowledge of Internet file transfer systems to begin using them immediately. In fact the initial stages represented a steep learning curve for the staff, as they learnt to cope with the technical aspects of achieving the necessary information exchange. FTP often proved to be a slow and cumbersome way of exchanging data, and the attaching of files to EMAIL messages often proved to be an equally effective and simpler method of distributing data.

Initially, EMAIL proved to be the most valuable tool, with questions relating to detailed design issues, requiring local information, arriving at Luton from the other institutions. Although the students were not able to work together in quite the way we had originally intended, they enjoyed the feeling of mutual endeavour and co-operation, and there was a sense of excitement when the first design proposals began to come in from the different participants. There were clear advantages in using a software standard for the project. Design proposals could be quickly evaluated without the need for file conversions. Although some files became corrupted during

transfer, generally the exchange of AutoCAD files worked well.

The design results achieved at the three centres form the core part of our World Wide Web presentation. One interesting aspect of the results is that the proposals from each centre, although clearly influenced by the context of the building, also exhibit recognisable elements which relate to the architectural culture of their own region.
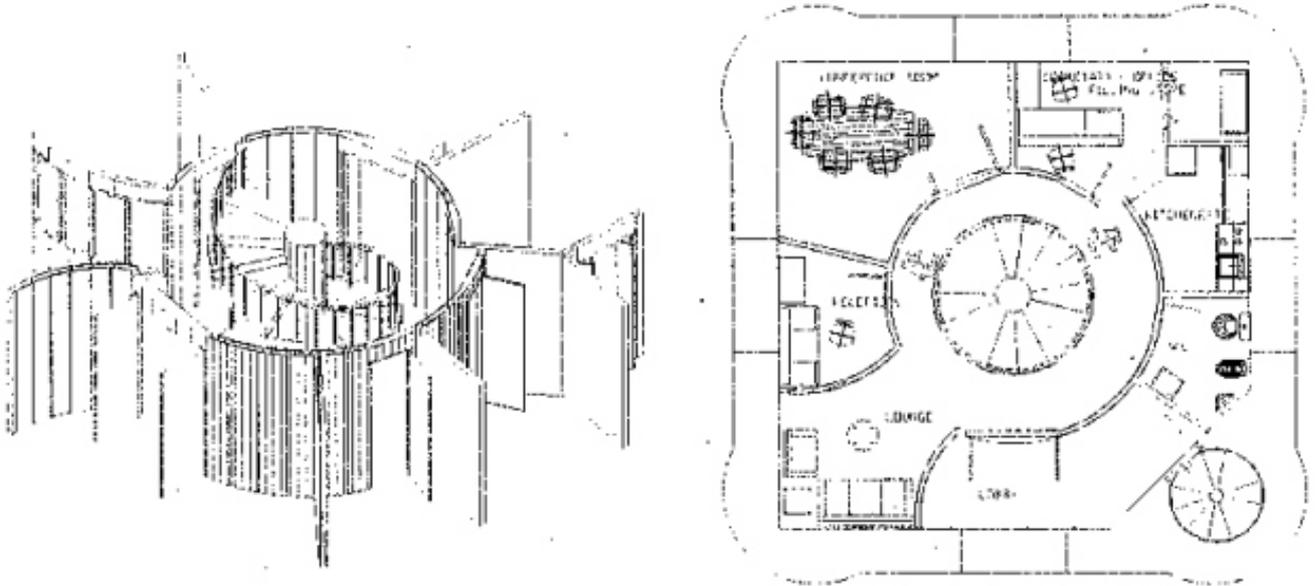

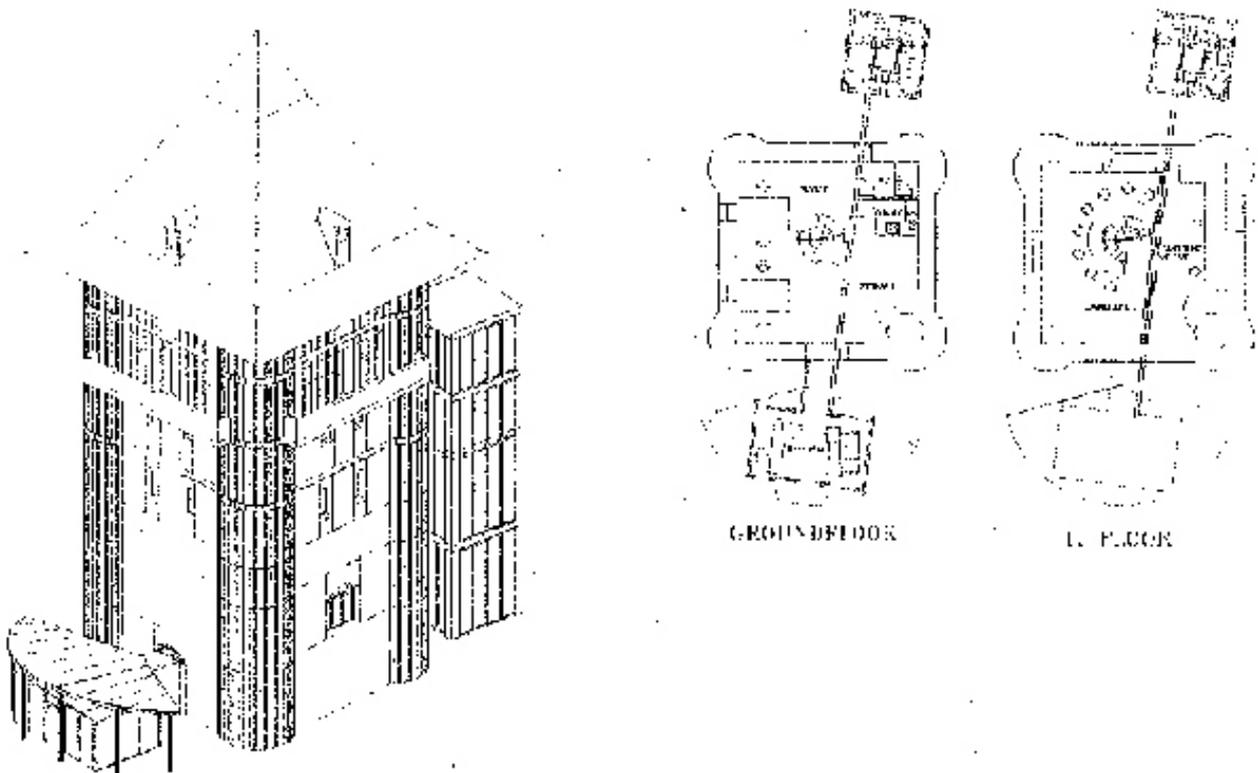Figure 2 - Design Proposal, Hitesh Modha Luton

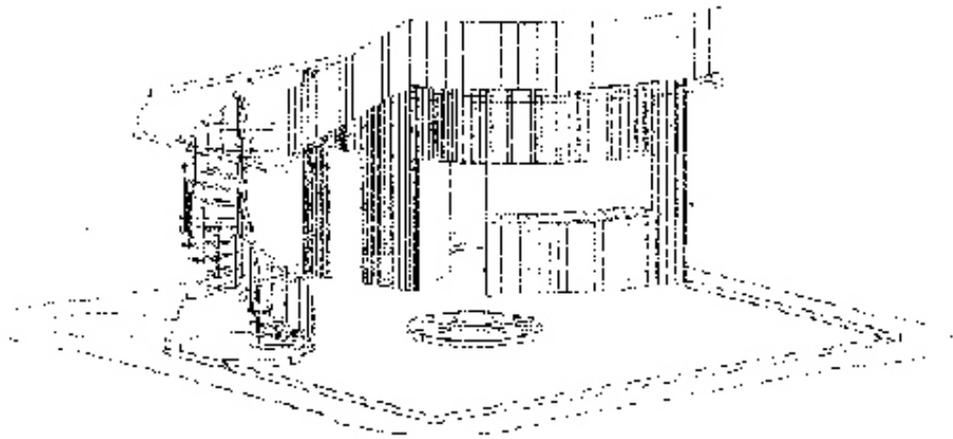Figure 3 - Design Proposal, Thomas Heinzl Graz

Figure 4 - Design Proposal, Juraj Sumbal and Boris Volosin, Bratislava

Conclusions

The project was successful in achieving completed design proposals at each participating institution. The fact that the students did not all have easy, open access to the relevant electronic communication media, and that much of the information exchange was carried out through the teaching staff, prevented the project from functioning precisely in the way that was originally foreseen. The forum for continuous debate between the students, which we had intended to create, did not really develop. However, the students at Bratislava and Graz enjoyed the element of working on a project on a site which was in a different centre, and all the students benefited from seeing design proposals produced by students outside their normal year group in their own school of architecture. We are now all making efforts to ensure that when we commence our next collaborative studio project all the students taking part will have open access to EMAIL, FTP and WWW browsers.

One great advantage of the project was that it enabled the students at Bratislava and Graz to work in a context beyond their usual geographical area, with local information being provided by Luton. This contextual aspect of the project was enhanced by the decision to use the conversion of an existing building as the vehicle for the project. We intend to further develop this contextual theme by carrying out further interactive collaborative design projects based upon the re-use of existing buildings in specific locations. Our project next year will involve the redevelopment of a nineteenth century brick gasometer in Vienna.

In educational terms the project was beneficial in developing the awareness of the students of issues connected with collaborative working, differing architectural cultures and the potential of electronic communication in design. All the participants, particularly the teaching staff, learnt a great deal about the possibilities and difficulties of using the Internet as a collaborative working tool. Unfortunately, the mechanics of achieving the data transfer tended to take up time which could have been better spent exploring more fully the architectural, educational and cultural aspects of the project. This is a weakness which we aim to improve during our next project. The greatest gain to the students was in raising their knowledge of the ways in which CAAD and electronic communication technologies can be integrated to form a powerful tool, which could have great benefits in terms of education and international architectural practice.

References

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