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Online studio in the industrial design education: the implications of kibis as the organizational communication and knowledge management system

Evren Akar*, Senem Turhan, Dalsu Ozgen, Aykut Coskun, Renk Dimli Oraklibel

Middle East Technical University Department of Industrial Design, Üniversiteler Mah. Dumlupınar Blv. No:1, Çankaya, Ankara 06800, TURKEY

Abstract

In order to explore the potentials of Computer Supported Collaborative Learning and Collaborative Design systems for industrial design education curriculum, the Department of Industrial Design at the Middle East Technical University has developed an online design studio called KIBIS. This paper will present the findings of a study in which KIBIS has been implemented within the context of a first year design studio project. In this process, questionnaires with students and semi-structured interviews with tutors have been conducted to understand contributions and limitations of the KIBIS in the design education, and to develop the KIBIS regarding the findings and insights.

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1. Introduction

Use of internet-based applications in design education continues to increase since the early 90's. These applications, which vary in parallel with the developments in internet technology, have enabled the formation of learning communities which fosters interaction rather than one-way transfer of information. As a result of interaction and communication, these communities have supported knowledge-transfer, sharing and creation processes and collaboration has become possible regardless of time and space. Participants in an online studio, contribute to the design process via computers regardless of time and space.

* Evren Akar. Tel.: +0-90-312-2102239
 E-mail address: evrena@metu.edu.tr

Although the first experiments with remote design collaboration began in 1988, the first major online design studio was in 1992, with the name of Remote Collaboration between the students of University of British Columbia (UBC) and Harvard University. In this study, communication has been through e-mail and file transfer protocol-FTP. However, in the next year's Virtual Village project, the number of participating institutions has increased – Massachusetts Institute of Technology (MIT), Harvard University, Washington University, Hong Kong University (HKU) and the University of British Columbia – and Digital Wall Panel (Digital Pinup Board) is used in addition to e-mail and FTP. This application was used as an analogy for the traditional design studio where online storage and exhibition was possible (Broadfoot & Bennett, 2003).

In 1995, two large virtual design studio projects were realized. The first was an international virtual design studio, which was carried out with the participation of students from Cornell University and MIT in the USA, ETH Zurich in Switzerland, UBC, University of Singapore, and the University of Sydney in Australia. The other one is Virtual Design Studio 95, and it was held with the collaboration of universities of Sydney, Brisbane and Tasmania, in Australia. Between 1995 and 1997, the experience of many online design studios that have taken place (Broadfoot & Bennett, 2003), and this period is referred to as a milestone in the evolution of the virtual design studio (Laiserin, 2002).

The first online design studio project of the Industrial Design Department of Middle East Technical University (METU) was realized with the partnership of the Delft University of Technology (TUDelft), in the Netherlands (Akar et al., 2004). In this project, design students of the two institutions collaborated to design a toy for kids. Students used Short Message Services (SMS) and video conferencing for synchronous communication, and shared their design work through INFOBASE-an online design studio application developed in TUDelft. However, this one-time project has not been repeated so far. Yet, the department has realized the need for an online design application, and further national and international collaborative design projects.

2. KIBIS

In 2010, the Department of Industrial Design at METU has begun to develop an online design studio called KIBIS-a Turkish acronym for Organizational Communication and Knowledge Management System- in order to integrate online design studio into conventional design studio, and to support communication and interaction with the firms collaborated during the projects without time and space constraints. There is an online platform called METU-Online, which is widely used for uploading documents both by students and tutors regarding the courses in the university. However, the system does not offer any visuals that can be criticized on which is essential for design education. In this context, KIBIS is aimed to:

• support tutors to manage their courses (i.e. open courses, assign students, add projects, add documents regarding the project, add phases in project, comment on the submissions of students regarding the project, etc.)

• enable students to get the documents that belong to their courses, upload their projects and get feedback from tutors,

• foster the interaction and communication between tutors, students and firms from industry that are collaborated in projects, such as graduation project in which face to face interaction was usually limited between students and firm representatives, since most of the collaborated firms are located at diverse cities.

• generate an archive (every document submitted through the system is classified and archived automatically.)

• exhibit student works on the department's web-site.

3. Evaluation of KIBIS

The use of KIBIS was evaluated in the Basic Design Studio of METU's Industrial Design Department. The first year students of the studio were given an assignment to be submitted through the system. The topic of the project was to design a two dimensional abstract composition specific to a certain location inside the faculty of