UNDERSTANDING THE ROLE OF COLLABORATIVE VIRTUAL ENVIRONMENTS IN DESIGN COMMUNICATION

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ABSTRACT

Recent developments in virtual environments offer new collaborative design platforms to designers. Designing and collaboration has been changing with the introduction of these new design environments. In this paper, we compare designers’ communication in co-located sketching with designing in remote environments. We conducted experiments, which include two designers’ communicating over four different technologies, and compared their verbal communication activities using protocol analysis.

Keywords: Collaborative design, collaborative virtual environments, design communication, protocol analysis

INTRODUCTION

The process of designing buildings has become increasingly more difficult, reflecting the growing complexity of the building themselves and the process leading to their design, construction and management (Kalay et al. 1997). This complexity has required better coordination of building-related activities which will align technological, economical, political and other developments […] (Archea 1987). Recently the developments in and the extensive use of internet technologies have brought about fundamental changes in the way architects and other parties collaborate and design. This initiative has been in part a response to pressure to improve efficiency, and also because of the need for communication and collaboration between designers using various computer-mediated technologies. Thus, computer-mediated communication technologies have become a vital medium for most design firms. Apparently, there is a need for more effective collaboration methods and formats for design documentation that offer efficient design collaboration and communication between design teams. In the past two decades, a variety of disciplines have participated in implementing, testing and developing information technology tools that are designed to address the feasibility of human collaboration at work. Computer mediated communication has been used virtually by all construction firms in some way (e.g. through facsimile and email) and most now have access to online information sources to aid their decision-making processes (Dainty et al. 2006). These developments have led to important advances in the enabling technologies that are required to support the changes in the design practice.