

Chapter XI

Tools and Technology to Support Creativity in Virtual Teams

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ABSTRACT

This chapter examines the ways in which currently available software applications can support the creative process in general, and designers, in particular, working in virtual teams. It follows the main stages in the design process, examining how existing software can support the creative process. Emerging innovations for each stage of the design process are also presented. The chapter provides examples of tools, considering their strengths and limitations, and speculates on future directions for software development to support creativity and collaboration within virtual teams.

INTRODUCTION

As the Internet develops many more of us are getting used to working with colleagues as members

of virtual teams. No longer is it necessary to be in the same physical space as someone you are working with or even in the same time zone. This chapter focuses on the work of designers working

collaboratively in virtual teams and software tools which can support them. The ‘team’ in this context includes a wide range of stakeholders, clients, designers and specialists, and virtual teams are groups working collaboratively within a virtual space. This may or may not include working at a distance; in this virtual space colleagues may be working in a conventional face-to-face relationship at the same time as occupying the virtual space with others. We have chosen design as the focus because it raises a tension between the creative aspects of practice and the professional aspects of commercial reality—this tension underpins many of the issues that influence the choice of tools to support teams and is a thread that will run through the rest of this chapter.

Although there are software applications available that can support various aspects of the design process, they are fragmented: there is no commonly accepted single environment that supports the entire design process for a virtual team. There are two main different types of tool: those which support tasks specific to certain stages of the design process, and those which enable a virtual team to operate as a cohesive and creative unit throughout the process. Furthermore, as will be discussed, although there are many technologies which support parts of the design process (such as prototyping and modelling), of critical importance to the subsequent success of a project is the initial dialogue and understanding which takes place long before the formulation of the design brief. This is particularly important given the range of stakeholders involved in the process, but is not well supported by technology.

While in the future, we envision a true collaborative virtual design environment, made up of a wide range of tools accessed over a network; this is very much a long-term vision. In this chapter, we will focus principally on creativity in virtual teams and how (and even if) today’s tools genuinely provide a framework that permits virtual teams to work in a creative way. We will return to this vision at the end of this chapter. First, the

nature of creativity in collaborative teams is examined, and is followed by a systematic analysis of presently available tools and their ability to support and enhance this creativity.

To illustrate the overall framework used in the rest of this chapter, consider the following scenario, which reflects the nature of the design process in an imaginary virtual team:

Scenario: *Megalith Sound Inc. has commissioned a small design consultancy, Carnelian, to design their new range of MP3 players. Sandy, senior partner in Carnelian, calls their lead designer, Alex, to set up a team to work on the design. Alex e-mails a few of their affiliated designers, with different specialities: Pat and Terry. Pat usually works from home and Terry is freelance, but Alex knows from one of her old e-mails that she has worked on a similar project. They look at the messages from Megalith, and put together a rough brief, exchanging word-processed e-mails. After getting feedback from Megalith, who provides more detailed technical information, they refine the brief, and Alex begins to plan and cost the design project. Meantime, Pat has been sketching out a few rough ideas and Terry has been building a mood board by collecting together a set of images. After exchanging e-mails, they call Alex (Pat uses Skype™ extensively) who pulls together a more focused set of alternatives. Pat uses Rhino to develop a range of 3D models, which they can run by Megalith; Terry and Alex amend the designs to refine the color and design detailing. Alex uses the in-house rapid prototyper to make a few samples, and emails the model files to Megalith.*

This simple scenario is pretty typical of how people can work together today as a virtual team in the design industry.

Figure 1 illustrates how many technologies are already integral to the design process. A wide variety of tools are used, some so ubiquitous that they are almost invisible. E-mail is important, but

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