

Chapter XXXVII

Collaborative Writing Tools in the Virtual Workplace

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ABSTRACT

Collaborative writing is an important element of the virtual workplace. While it is sometimes enough to e-mail a document back and forth between authors and editors, users frequently need a more effective solution. Users can choose from system-based or browser-based software and from synchronous and asynchronous editors. These products can vary from the simple to the sophisticated and from free to expensive. This chapter looks at research on the use of collaborative editors and tools currently on the market and provides guidance as how to evaluate the appropriateness of the tools, paying particular attention to collaborative features, industry standards, and security.

INTRODUCTION

Over the last 20 years, many businesses have gradually, and sometimes not so gradually, moved towards a virtual work environment, bridging barriers of time and space. This relatively new environment encompasses many aspects of our lives. A radiologist in India may be responsible for reviewing an x-ray from Boston. A taxi cab driver from Boston may earn a Bachelor's degree online from a college in Texas. Writers from across the country may collaborate on a magazine article or report. At the heart of much this progress is the Internet and the World Wide Web, which have

increasingly provided a way not only to share information, but a way to collaborate on creating documents.

Not surprisingly, many of the electronic tools for the brick and mortar office have evolved into tools for the virtual office, particularly the word processor, which has evolved from a replacement for a typewriter to a tool for collaborative writing. Collaborative writing tools generally fall into one of two categories: synchronous and asynchronous. These tools can also be divided another way: system-resident and Web-based. While both versions often use servers as part of the editing process, the latter moves the actual

software away from the local system into the Web browser. This trend, still in its early stages, is considered by many pundits to be the future of software. This chapter sets out to examine some of the collaboration tools and technologies available for use in the virtual workplace. This chapter also offers insights into the pros and cons of each type of tool, provides guidance as to how to evaluate the appropriateness of the tools for different work environments, and suggests some best practices for using the tools.

BACKGROUND

The word processor, an electronic tool for composing written documents, has changed how people write and how they think about writing (Heim, 1987). Academic research on the tool began as early as 1962, and commercial computer-based word processors were available by the mid-1970s (Myers, 1998). Those fortunate few who had access to these tools were suddenly freed from the horror of making a spelling mistake in a document and then having to retype the page or struggle with correction fluid to hide their error. With Michael Shryer's 1976 release of *Electric Pencil*, word processing moved to the burgeoning realm of the personal computer. By the mid-1980s, writing tools such as WordStar and WordPerfect were playing a major role in the business environment and developers began to look at leveraging nascent networks to create tools to let people edit in a collaborative environment (Malcolm & Gaines, 1991; Myers, 1998).

In their discussion of how they designed their collaborative writing system, GroupWriter, Malcolm, and Gaines (1991) laid out the basic requirements of a collaborative authoring system as:

- allowing simultaneous editing
- allowing comparison of versions
- allowing reversion to older versions when needed
- allowing insertion of comments

- being compatible with other software
- being similar enough to existing word processors to be easy to use
- having no need for users to manage the system
- incorporating e-mail
- providing reliable and secure data storage

While this rubric is 16 years old, it is still very much a viable way to evaluate collaborative writing software.

Although electronic collaborative writing tools have become a common and important part of business and academic communication, they have not been accepted uncritically. A number of researchers have examined the use of technology to help mediate the collaborative writing process. These studies have taken a variety of approaches ranging from observational studies (Forman, 1991) to experimental (Galegher & Kraut, 1994). Forman identified a number of problems among novice collaborative writers. These problems included group process issues such as coordinating group and individual efforts, leadership issues, and resolving conflicts; writing issues such as not meeting the reader's needs and not understanding the need for revisions or the difference between editing and revising; and computing issues such as lack of voluntary standardization of equipment and software or basic computing practices. In short, many of the participants experienced "cognitive overload" and found the new technology stifling and hard to master rather than an efficient management tool.

One of the concerns raised early on was that an overreliance on computers in collaborative writing might hinder the writing process, particularly if all communication between the writers was computer-mediated. Kraut, Galegher, Fish, and Chalfonte (1992) identified the needs among collaborators to resolve three types of complexities—social, intellectual, and procedural—when collaborating electronically. Authors must establish goals, divide tasks, resolve issues of authority, decide on the document's structure, and determine the

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