Chapter 4
Collaboration through Digital Libraries

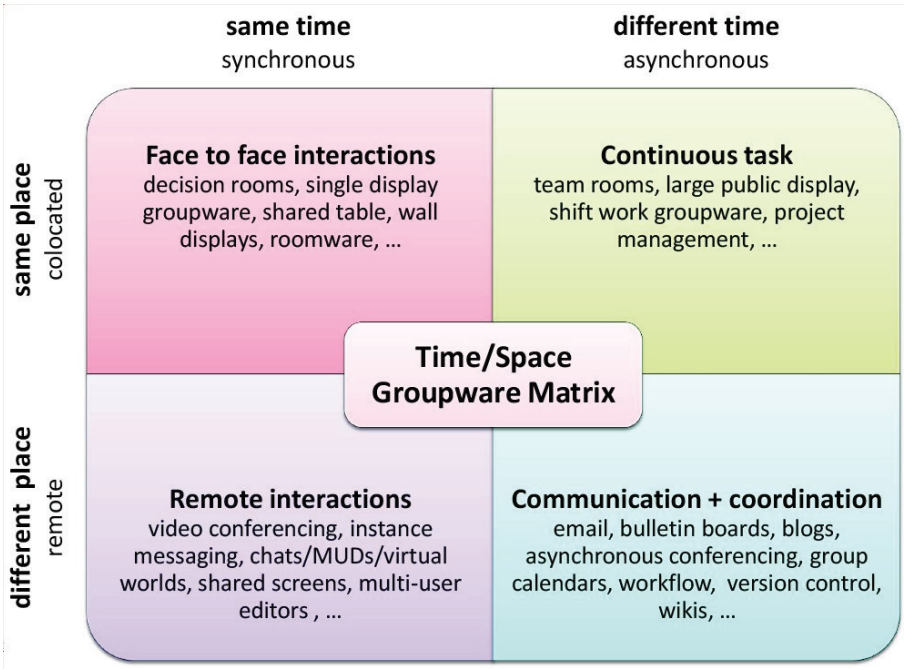
András Micsik
MTA SZTAKI DSD, Hungary

ABSTRACT

This chapter addresses the collaborative aspects of digital libraries as a special case of Computer Supported Collaborative Work (CSCW). Libraries always had social and cultural roles, and worked as a dedicated place for learning, research and sometimes also for opinion exchange and debates. The Internet era gave birth to digital libraries which can also represent a whole range of collaborative functions. The suitable collaborative functions are different for young students, general public or scientists and also different in the view of the user's goals, such as finding content, finding answers or creating new content. The collaborative aspects of these library functions are described here in details with typical examples. Despite of these examples, many librarians think that digital libraries failed to ride the waves of emerging web technologies, and current digital libraries cannot serve general information needs well enough, so they are not among the first sources of information and collaboration support any more. An important moment in the evolution of DL systems was the appearance of Web 2.0 technology and social computing. The Web 2.0 brought not only fancier user interfaces, but enriched functionality for building communities and collaborating extensively through the Web. Library 2.0 was the late response of the librarian community for social sites, since Library 2.0 is user-centered, with focus on rich social interactions through multi-media content. Moreover, for many, Library 2.0 is not about technology, but about a new philosophy of constant evaluation and innovation with the help of library users. In fact, Library 2.0 allows the users to change the library in many ways. The challenges for libraries within the Web 2.0 era are summarized here, along with the research issues waiting to be solved, as we think that the prospects of collaborative functionalities are far reaching and they could become a key motivation for using digital libraries.

DOI: 10.4018/978-1-60960-031-0.ch004

Figure 1. The CSCW matrix (Source: Wikipedia)



1. INTRODUCTION

Supporting collaboration by computers is an old domain in IT research and applications. In the first period of this research area, the focus was on improving communication by providing better tools such as e-mail, chat rooms and video conferencing. Soon, the focus became broader, and aimed at enhancing cooperation and collaboration. This broader sense includes the topics of joint work, task distribution, meeting support, etc. More generally, the goal of research is to improve the efficiency of groups and to support emerging group behaviors. The name of the discipline, computer supported cooperative work (CSCW) was born in 1984, while the applications in this domain are often called groupware. Related terms with slightly different meaning are also used such as Computer-supported collaboration (CSC) or Computer-Mediated Communication (CMC). Moreover, completely new areas emerged from CSCW including e-learning and social computing.

Groupware went through a dynamic expansion both in functionality and usage. Collaboration facilities appeared in all types of software, including business processes, research, learning and, naturally, libraries. In order to organize the topic and classify groupware applications, the CSCW matrix (Figure 1) was introduced in 1988(Johansen, 1988). This uses two dimensions, namely time and space to separate the types of interactions. To highlight it with an example, the cell of same time and same place interactions represents face-to-face interactions and its supporting applications such as real-time decision support or specialized meeting room software. If we move on to same time but different place interactions, we find simultaneous communication tools such as video-conferencing or shared displays. The same-place-different-time aspect covers applications for continuing tasks, team rooms and large public displays. The most usual type of groupware is the fourth one, the asynchronous tools where time and place of collaborators are indifferent. The