Chapter 7
Review and Brief History of Collaborative Systems: Taxonomy, Services and Classification

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ABSTRACT
E-collaboration and collaborative systems bring geographically dispersed teams together, supporting communication, coordination and cooperation. From the scientific perspective, the development of theories and mechanisms to enable building collaborative systems presents exciting research challenges across information subfields. From the applications perspective, the capability to collaborate with users and other systems is essential if large-scale information systems of the future are to assist users in finding the information they need and solving the problems they have. This chapter presents a review of research in the area of creating collaborative applications and taxonomies. The author analyzes previous literature, and examines some practice cases and research prototypes in the domain of collaborative computing. Finally, the chapter provides a list of basic collaboration services, and tools are presented relating to the services they provide. All surveyed tools are then classified under categories of functional services. In conclusion, the chapter highlights a number of areas for consideration and improvement that arise when studying collaborative applications.

INTRODUCTION
The history of collaborative systems is not recent. Its beginnings stem from various studies and previous software developments, ranging from the so-called HCI (Human Computer Interface Studies) to current network systems resulting from the development and evolution of the technology involved, herein called groupware or groupware systems, which have gone through many different phases.

In this paper a study is proposed on the different aspects associated with these systems, which are
based on the integration of participation in a single project by many geographically dispersed users connected via a network. Typically, collaborative systems were designed to share information and coordinate related activities in a project. Some of the basic characteristics of groupware systems are a shared calendar for sharing events, a mailing list for accessing shared information, a space for sharing files and communication tools such as a chat or forum to communicate with a group.

To better understand collaborative systems, the state of the art in fields that most directly affect research on collaborative systems have to be studied:

1. Human-Computer Interaction (HCI), collaborative systems,
2. Online social networks.

We considered it appropriate to present the state of the art in a phased manner, starting from the beginnings of human-computer interaction, which is the field of research that in turn includes collaborative systems. The greatest focus was placed on the latter since online social networks are among them (being a particularity thereof).

Additionally, in order to thoroughly understand the development of collaborative systems, it is important to know all the areas that are directly or indirectly related to our study.

Some of the following studies can be broken down by area:

1. Computation
   a. Human-computer interaction
   b. Group and “awareness” interfaces
2. Databases
   a. Organizational or group memory
3. Networks
   a. Geographically distributed cooperation
4. Hypermedia
   a. Web Environment
5. Multimedia
   a. Improved means of communication
6. Artificial intelligence
   a. Agents
7. Social Sciences
   a. Groups
   b. Administration

1. DEFINITIONS AND BASIC CONCEPTS

The origins of Groupware and CSCW date back to 1968, when they were specifically presented in the Online System. Later in 1975 the same author, Douglas Engelbart, presented a prototype with the following features: shared screen collaboration, telepointing and tele-conference with video. Also at this same time writers such as M. Turoff and S. Hiltz, began researching this subject, studying the potential of conferencing systems and comparing these with similar systems in their work.

The term Groupware came into use in 1981 before the term CSCW, based on the article [26] by the authors P. Johnson-Lenz and T. Johnson-Lenz. It was a little later, in 1988, when I. Grief coined the term CSCW, a term referring to a new area of research which uses technology to provide people with support at work.

Groupware: This is an application or set of tools that covers needs such as communication, cooperation and coordination. These are all needs arising in collaborative work between two or more people, and groupware provides them with a common interface.

CSCW: This is a term which combines the understanding of how people work in groups with the potential of computer network technologies associated with software, hardware, services and techniques.

The difference between CSCW and groupware can be seen clearly from the definitions above. It can be observed that the term groupware refers to commercial technologies, whereas the term CSCW refers to research and experimental systems.
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