

# Introduction to Collaboration Systems and Technologies Track

Jay F. Nunamaker, Jr.  
University of Arizona  
jnunamaker@cmi.arizona.edu

Robert O. Briggs  
University of Nebraska at Omaha  
rbriggs@mail.unomaha.edu

To develop a foundational understanding of collaboration, it is useful to think of it in terms of goals. *Collaboration* means joint effort toward a group goal. Group goals, however, are different than the internal goals of group members. For example, an automobile designer who wants international acclaim may collaborate with a machinist who wants financial security and an entrepreneur who wants to found and sell a company to build a fine custom sports car. It is important to note that none of them wants a car. Indeed, none can get what they want until they get rid of the car they have agreed to build. Thus, group members agree to work toward common goals, but only in service of their individual internal goals.

Collaboration systems, therefore, cannot be considered from a purely technical perspective. A collaboration system is composed of group members their work practices, their information, and, lastly, their hardware and software. Collaboration research is, by nature, a cross-disciplinary field of enquiry that draws insight from the theories and findings of many fields. From psychology we gain understanding of the cognitive foundations for creativity, reasoning, commitment, and other key phenomena. We draw on the management literature for understandings of phenomena like motivation, leadership, resource allocation and others. From education we draw insights not only about how people learn new work practices and new technologies, but how they learn about their problem, their proposed solutions, and one another. From the social sciences we draw insights about power, politics, relationships, etc. These and many other insights must inform the design and deployment choices for collaboration systems.

Current collaboration technologies fall into three general categories: jointly authored pages, streaming tools, and information access tools. With jointly authored pages, all participants view and contribute to the same collection of contributions. Some such technologies are optimized to support conversations – instant

messaging, threaded discussions, and blogs, for example. Others are shared editors optimized for joint creation of deliverables – e.g. wikis, shared text editors, shared graphics, or shared spreadsheets. Still others are tailored for the creation of useful group dynamics, for example group support systems.

Streaming technologies rely on an uninterrupted data stream, usually to convey continuously changing information over time. Best known examples in this category are voice conferencing, video conferencing, and application sharing. Tools for information access include shared data repositories, social tagging, search engines, and syndication tools. Social tagging is of particular interest to researchers today because this mechanism not only allows for rapid discovery of relevant information, but also for rapid discovery of other people who share similar interests and goals.

Collaboration software products are rarely just a single technology. Most are aggregates composed of some mix of the technologies above. Their details vary in their synchronicity, their access and control mechanisms, and the mechanisms they use to alert participants that their attention is required. There are now more than 250 collaboration software products, and more appear each month. Good tools, however, are not enough. A given tool can be used in ways that improve productivity and in ways that hamper productivity. Thus, as researchers, we must examine not only the technology, but the work practice and the cultures in which it is embedded.

The HICSS Collaboration Systems and Technology track seeks to bring these perspectives to together. It seeks to synthesize broader understandings from the diversity of approaches its contributors bring to the conference. We commend their insights to your contemplation.