



Communications Technical Group

The Communications Technical consists of people interested in all aspects of human factors as applied to communication systems. This includes the initial determination of user needs as well as the implementation of human factors considerations during design, installation, operation, field evaluation, personnel selection, training, and maintenance. Specific areas of interest include telecommunications, human communications, and computer-based communications.

TECHNICAL FOCUS

Human factors practitioners working in the field of communications are engaged in both product development and research. The human factors practitioner is the primary user advocate during product development. Activities focus on usability making the product easy to use, easy to learn, highly productive, and safe. Specific activities of the human factors practitioner include the following:

- Developing user profiles, functional requirements, and product specifications
- Designing the user interface, controls, displays, and manuals
- Testing prototypes using potential product users as subjects
- Conducting verification tests at customer sites
- Evaluating training materials and courses

Most research related to human factors in communications is carried out at universities and at companies involved with the design, development, and manufacturing of communications products. Current active research areas include the following:

- User interface research for telecommunications equipment
- Computer networks and network management
- Audio and video teleconferencing
- Electronic publishing and imaging
- Internet Telephony
- Interactive television and multi-media information services

SUCCESS STORIES

Members of the CTG have been involved in a number of successful programs and products. A few are described below.

AT&T DSL Self-installation kit Human factors field and laboratory evaluations of a consumer-usable broadband internet self installation kit increased the percentage of users who opted for self-install from less than 10% to over 90% while simultaneously increasing the success rates of those self-installations by an equal amount.

Data Communication Network Manager Net View allows its users to monitor, control, and troubleshoot data networks. Prior to development, human factors engineers conducted field studies to determine user characteristics, task characteristics, and problems with earlier products of this type. Usability tests for these products were also conducted. The new product provided significant improvements in usability. NetView is a trademark of IBM.

5200 Series Cordless Telephones

When cordless telephones were introduced, their acoustic qualities compared unfavorably with standard corded telephones. Using a computer-controlled experimental methodology, human factors engineers evaluated prototype cordless phones. The testing led to significant improvements in the product, which is produced by AT&T.

MEMBERSHIP

The CTG consists of more than 200 individuals who work for telecommunications firms, universities and colleges, consulting firms, and manufacturers. The CTG seeks to foster the exchange of information among members and to promote the development and application of human factors data to communication systems. Most CTG members are also members of the Human Factors and Ergonomics Society.

BENEFITS OF MEMBERSHIP

The CTG, like other technical groups within the Human Factors and Ergonomics Society, performs a variety of functions and services for its members. In addition to sponsoring technical sessions at the HFES Annual Meeting, the CTG conducts special symposia on topics of special interest to members. A newsletter is sent to all members about two times each year. Additional information on the CTG can be obtained by contacting HFES.

It is not necessary to be a member of HFES in order to join the Communications Technical Group.

ADDITIONAL READING

Readers who would like to learn more about human factors and communications should consult the following references:

Sharit, J., Czaja, S.J., Nair, S., and Lee, C. (2003). Effects of Age, Speech Rate and Environmental support in using Telephone Voice Menu Systems. *Human Factors* 45(2), pp 234-251.

Proceedings of the 20th International Symposium on Human Factors in Telecommunications. (2006). Held March 2006 in Sophia-Antipolis, France. (Available from Information Gatekeepers, Inc., 214 Harvard Ave., Boston, MA 02134 USA.) or online at <http://www.hft.org/HFT06>.

Turner, P. A. (Ed.). (1983). Human factors and behavioral science [special issue]. *The Bell System Technical Journal*, 62 (6).