

# Computer-Mediated Communication

05-417/05-817 (12 credits)

Spring 2006

MW 12:00-1:20 WEH 4615A

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*Overview:* In this course, we will examine fundamental aspects of interpersonal communication and consider how different types of computer-mediated communications (CMC) technologies—such as e-mail, instant messaging, video conferencing, and teleconferencing—affect communication processes. The goals of the course are to provide students with a basic understanding of the processes of interpersonal communication, with an understanding of how features of current CMC technologies affect interpersonal communication, and with the knowledge they need to help design new communications technologies.

The course is divided into three units: (a) basic models of CMC, research methods, and conversational structure; (b) verbal, nonverbal and paralinguistic aspects of communication; and (c) social and cultural dimensions of CMC. Readings for each week will combine overview material from research on face-to-face communication with studies of specific CMC tools.

*Materials.* Course materials will consist of 50-100 pages of readings per week. All materials are available in pdf format on the course BlackBoard site.

*Assignments and grading.* Performance will be assessed as follows:

- *Weekly discussion list postings (40%).* Each week students are expected to post a minimum of 250 words on topics related to that week's readings. Posts can include reactions (agreements or disagreements and why) to ideas in the readings, reflections on the readings based on your own experiences with technologies, or ideas or questions for future research. Students can start their own discussion threads or add to those started by other students. Posts must be completed by Sunday night at midnight to receive credit. (You may skip up to two weeks' posts without losing credit. After that, 5% will be subtracted for each missed week.)
- *Class discussion (20%).* Students are expected to contribute actively to class discussions. Approximately half of the class time each week will be set aside for group discussion.
- *Final paper (30%).* Students are expected to complete a term paper of 20-25 pages, doubled spaced, in 12 point font. Papers should address a specific aspect of computer-mediated communication of the student's choosing. More detailed paper instructions will be provided later in the course.
- *Class presentation (10%).* Students will present a brief overview of their chosen research topic and their recommendations for new technologies to support computer-mediated communication. Presentations will be approximately 10 minutes long, using PowerPoint slides. Presentations will occur during the last week of class.

## Semester Schedule

Week and Topic(s)	Reading
<i>Unit 1: Basics of CMC</i>	
1. Introduction and Overview Jan 16-18	<p>Whittaker, S. (2003). Theories and methods in mediated communication. In Graesser, A., Gernsbacher, M., and Goldman, S. (Ed.) <i>The Handbook of Discourse Processes</i> (pp. 243-286). Mahwah, NJ: Lawrence Erlbaum Associates.</p> <p>Kiesler, S. B., Siegal, J., &amp; McGuire, T. W. (1984). Social psychological aspects of computer-mediated communication. <i>American Psychologist</i>, 39, 1123-1134.</p>
2. Background and Methods Jan 23-25	<p>Spears, R., Lea, M. &amp; Postmes, T. (2001) Social psychological theories of computer-mediated communication: Social pain or social gain. In W. P. Robinson and H. Giles (Eds.) <i>The New Handbook of Language and Social Psychology</i> (pp. 601-623). Chichester: John Wiley &amp; Sons, Ltd.</p> <p>Clark, H. H. &amp; Brennan, S. E. (1991). Grounding in communication. In L. B. Resnick, R. M. Levine, &amp; S. D. Teasley (Eds.). <i>Perspectives on socially shared cognition</i> (pp. 127-149). Washington, DC: APA.</p> <p>Williams, F., Rice, R. E., &amp; Rogers, E. M. (1988). Choosing among alternative research designs. In F. Williams, R. E. Rice, and E. M. Rogers, <i>Research methods and the new media</i> (pp. 32-51). New York: Free Press.</p> <p>McCarthy, J. C., &amp; Monk, A. F. (1994). Measuring the quality of computer-mediated communication. <i>Behaviour &amp; Information Technology</i>, 13, 311-319.</p> <p>Optional: Daft, R., Lengel, R., &amp; Trevino, L., (1987). Message equivocality, media selection, and manager performance: Implications for information systems. <i>MIS Quarterly</i>, 11, 355-366.</p> <p>Optional: Short, Williams &amp; Christie (1976). <i>The social psychology of telecommunications</i> (pp. 77-89). NY: Wiley.</p>
3. Conversational Structure Jan 30-Feb 1	<p>Holtgraves, T. M. (2002). Conversational Structure. In T. M. Holtgraves, <i>Language as Social Interaction</i> (pp. 89-120). Mahwah, NJ: Lawrence Erlbaum Associates.</p> <p>Sellen, A. (1992). Speech patterns in video-mediated conversations. <i>Proceedings of the CHI 1992 Conference on Human Computer Interaction</i> (pp. 49-59). NY: ACM Press.</p> <p>Hancock, J. T. &amp; Dunham, P. J. (2001). Language use in computer-mediated communication: The role of coordination devices. <i>Discourse Processes</i>, 31, 91-110.</p> <p>Herring, S. C. (1999). Interactional coherence in CMC. <i>Proceedings of the 32<sup>nd</sup> Hawaii International Conference on System Sciences</i>. IEEE Press.</p> <p>Smith, M, Cadiz, J. J., &amp; Burkhalter, B. (2000). Conversation trees and threaded chat. <i>Proceedings of CSCW 2000</i> (pp. 97-105).</p>
4. Conversational Grounding Feb 6-8	<p>Schober, M. F. &amp; Brennan, S. E. (2003). Processes of interactive spoken discourse: The role of the partner. In Graesser, A., Gernsbacher, M., and Goldman, S. (Ed.) <i>The Handbook of Discourse Processes</i>, (pp. 123-164). Mahwah, NJ: Lawrence Erlbaum Associates.</p> <p>Bangerter, A., Clark, H. H., &amp; Katz, A. R. (2004). Navigating joint projects in</p>

	<p>telephone conversations. <i>Discourse Processes</i>, 37, 1-23.</p> <p>Kraut, R. E., Fussell, S. R., &amp; Siegel, J. (2003). Visual information as a conversational resource in collaborative physical tasks. <i>Human Computer Interaction</i>, 18, 13-49.</p>
<p>5. Initiating Conversations Feb 13-15</p>	<p>Kraut, R. E., Fish, R.S., Root, R.W., &amp; Chalfonte, B.L. (1990). Informal communication in organizations: Form, function, and technology. In S. Oskamp &amp; S. Spacapan (Eds). <i>Human reactions to technology: The Claremont Symposium on applied social psychology</i> (pp. 145-199). Beverly Hills, CA: Sage.</p> <p>Tang, J. C. (under review). Approaching and leave-taking: Negotiating contact in computer-mediated communication. <i>TOCHI</i>.</p> <p>Isaacs, E., Walendowski, A., Whittaker, S., Schiano, D. J. &amp; Kamm, C. (2002). The character, functions, and styles of instant messaging n the workplace. <i>Proceedings of CSCW 2002 Conference on Computer-Supported Cooperative Work</i> (pp. 11-20). NY: ACM Press.</p> <p>Grinter, R. E., &amp; Eldridge, M. (2003). Wan2tlk?: Everyday text messaging. <i>Proceedings of CHI 2003</i> (pp. 441-448). NY: ACM Press.</p>
<p><i>Unit 2: Verbal, Nonverbal and Paralinguistic Dimensions of Communication</i></p>	
<p>6. Auditory Features and Audio Conferencing Feb 20, 22</p>	<p>Hindus, D., Ackerman, M. S., Mainwaring, S., &amp; Starr, B. (1996). Thunderwire: a field study of an audio-only media space, <i>Proceedings of the CSCW 1996 Conference on Computer Supported Cooperative Work</i>, (pp. 238-247). NY: ACM Press.</p> <p>Aoki, P. M., Romaine, M., Szymanski, M. H., Thornton, J. D., Wilson, D., &amp; Woodruff, A. (2003). The mad hatter's cocktail party: a social mobile audio space supporting multiple simultaneous conversations. <i>Proceedings of CHI 2003</i> (pp. 425-432). NY: ACM Press.</p> <p>Rodenstein, R. &amp; Donath, J. S. (2000). Talking in circles: Designing a spatially-grounded audioconferencing environment. <i>Proceedings of CHI 2000</i> (pp. 81-88). NY: ACM Press.</p> <p>Schneider, M., &amp; Kiesler, S. (2005). Calling while driving: Effects of providing remote traffic context. <i>Proceedings of CHI 2005</i> (pp. 561-569). NY: ACM Press.</p> <p>Whittaker, S., &amp; O'Conaill, B. (1997). The role of vision in face-to-face and mediated communication. In K. Finn, A. Sellen &amp; S. Wilbur (Eds.) <i>Video-mediated communication</i> (pp. 23-49). Mahwah, NJ: Erlbaum</p>
<p>7. Gaze and Video Conferencing Feb 27-Mar 1 <b>Topics for Term Paper Due Today</b></p>	<p>Doherty-Sneddon,G., Anderson,A.H., O'Malley,C., Langton, S., Garrod, S. &amp; Bruce, V. (1997). Face-to-face and video mediated communication: a comparison of dialogue structure and task performance. <i>Journal of Experimental Psychology: Applied</i>, 3,105-125.</p> <p>Monk, A.F. &amp; Gale, C. (2002) A look is worth a thousand words: full gaze awareness in video-mediated conversation. <i>Discourse Processes</i>, 33, 257–278.</p> <p>Gaver, W., Sellen, A., Heath, C., &amp; Luff, P. (1993) One is not enough: Multiple views in a media space. <i>Proceedings of Interchi '93</i> (335-341). NY: ACM Press.</p> <p>Fussell, S. R., Setlock, L. D., &amp; Kraut, R. E. (2003). Effects of head-mounted and scene-oriented video systems on remote collaboration on physical tasks. <i>Proceedings of the CHI 2003 Conference on Human Computer Interaction</i> (pp.</p>

	<p>513-520). NY: ACM Press.</p> <p>Ishii, H., Kobayashi, M., &amp; Grudin, J. (1993). Integration of interpersonal space and shared workspace: ClearBoard design and experiments. <i>ACM Transactions on Information Systems, 11</i>, 349–375.</p>
<p>8. Gesture Mar 6-8</p>	<p>Bekker, M. M., Olson, J. S., &amp; Olson, G. M. (1995). Analysis of gestures in face-to-face design teams provides guidance for how to use groupware in design. <i>Proceedings of DIS 95</i>. NY: ACM Press.</p> <p>Fussell, S. R., Setlock, L. D., Yang, J., Ou, J., Mauer, E. M., &amp; Kramer, A. (2004). Gestures over video streams to support remote collaboration on physical tasks. <i>Human-Computer Interaction, 19</i>, 273-309.</p> <p>Gutwin, C., &amp; Penner, R. (2002). Improving interpretation of remote gestures with telepointer traces. <i>Proceedings of CSCW02</i> (pp. 49-57). NY: ACM Press.</p> <p>Kuzuoka, H., Oyama, S., Yamazaki, K., Suzuki, K., Mitsuishi, M. (2000). GestureMan: A mobile robot that embodies a remote instructor's actions. <i>Proceedings of the CSCW 2000 Conference on Computer Supported Cooperative Work</i>, 155-162. New York: ACM.</p>
<p>9. Spring Break Mar 13-15</p>	
<p>10. Touch and Other Senses Mar 20-22</p> <p><b>Reference List for Term Paper Due Today</b></p>	<p>Chang, A., O’Modhrain, S., Jacob, R., Gunther, E., &amp; Ishii, H. (2002). ComTouch: Design of a vibrotactile communication device. <i>Proceedings of DIS 2002</i> (pp. 312-320).</p> <p>Rovers, A. F., &amp; van Essen, H. A. (2004). HIM: A framework for haptic instant messaging. <i>CHI 2004 Late Breaking Results</i> (pp. 1313-1316).</p> <p>Sallnas, E-L., Rasmus-Grohn, K., &amp; Sjortrom, C. (2001). Supporting presence in collaborative environments by haptic force feedback. <i>ACM Transactions on Computer-Human Interaction, 7</i>, 4, 461-476.</p> <p>Kaye, J. (2004). Aromatic output for HCI. <i>Interactions of the ACM, January-February</i>, 48-61.</p>
<p><i>Unit 3: Social Dimensions of CMC</i></p>	
<p>11. Politeness, Affect and Emotion Mar 27-29</p>	<p>Holtgraves, T. (2002). Face management and politeness . In T Holtgraves, <i>Language as Social Action: Social Psychology and Language Use</i> (pp. 37-63). Mahwah, NJ: Erlbaum.</p> <p>O’Sullivan, P. B., &amp; Flanagin, A. J. (2003). Reconceptualizing ‘flaming’ and other problematic messages. <i>New Media and Society, 5</i>, 67-92.</p> <p>Brennan, S., &amp; Ohaeri, J. (1999). Why do electronic conversations seem less polite? The costs and benefits of hedging. <i>Proceedings, International Joint Conference on Work Activities, Coordination, and Collaboration (WACC '99)</i> (pp 227-235). San Francisco, CA.</p> <p>Walther, J. B. &amp; D’Addario, K. P. (2001) The impacts of emoticons on message interpretation in computer-mediated communication. <i>Social Science Computer Review, 19</i>, 324-347.</p> <p>Monk, A. F., Carroll, J., Parker, S. &amp; Blythe, M. (2004), Why are mobile phones annoying? <i>Behaviour and Information Technology, 23</i>, 33-42.</p>

	<p>Monk, A., Fellas, E., &amp; Ley, E. (2004). Hearing only one side of normal and cell phone conversations. <i>Behaviour and Information Technology</i>, 23, 301-305.</p>
<p>12. Trust, Deception, and Relationship Development Apr 3-5</p>	<p>Bos, N., Olson, J., Gergle, D., Olson, G., &amp; Wright, Z. (2002). Effect of four computer mediated communications channels on trust development. <i>Proceedings of CHI 2002</i> (pp. 135-140). NY: ACM Press.</p> <p>Zheng, J., Veinott, E., Bos, N., Olson, J. S., &amp; Olson, G. M. (2002). Trust without touch: Jumpstarting long-distance trust with initial social activities. <i>Proceedings of CHI 2002</i> (pp. 141-146).</p> <p>Hancock, J., Thom-Santelli, J., &amp; Ritchie, T. (2004). Deception and design: The impact of communication technology on lying behavior. <i>Proceedings of CHI 2004</i> (pp. 130-136). NY: ACM Press.</p> <p>Tidwell, L. C., &amp; Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. <i>Human Communication Research</i>, 28, 317-348.</p> <p>Bradner, E. &amp; Mark, G. (2002). Why distance matters: Effects on cooperation, persuasion and deception. <i>Proceedings of CSCW 2002</i> (pp. 226-235). NY: ACM Press.</p> <p><b>Wed.: Special guest lecture by Jeff Hancock, Cornell University</b></p>
<p>13. Effects of Gender and Culture Apr 10-12</p>	<p>Thomson, R. &amp; Murachver, T. (2001). Predicting gender from electronic discourse. <i>British Journal of Social Psychology</i>, 40, 193-208.</p> <p>Sussman, N. M. &amp; Tyson, D. H. (2000). Sex and power: Gender differences in computer mediated interactions. <i>Computers in Human Behavior</i>, 16, 381-394.</p> <p>Postmes, T., &amp; Spears, R. (2002). Behavior online: Does anonymous computer communication reduce gender inequality? <i>Personality and Social Psychology Bulletin</i>, 28, 1073-1083</p> <p>Setlock, L. D., Fussell, S. R., &amp; Neuwirth, C. (2004). Taking it out of context: Collaborating within and across cultures in face-to-face settings and via instant messaging. <i>Proceedings of CSCW 2004</i> (pp. 604-613). NY: ACM Press.</p> <p>Veinott, E., Olson, J., Olson, G. &amp; Fu, X. (1999) Video helps remote work: Speakers who need to negotiate common ground benefit from seeing each other. In <i>Proceedings of CHI 1999</i> (pp. 302-309). NY: ACM Press.</p> <p>Postmes, T., Spears, R., Lea, M. (2002). Intergroup differentiation in computer-mediated communication: Effects of depersonalization. <i>Group Dynamics: Theory, Research and Practice</i>, 6, 3-16.</p>
<p>14. Extending CMC to Human-Computer and Human-Robot Communication Apr 17-19</p>	<p>Brennan, S. E. (1998). The grounding problem with and through computers. In S. R. Fussell &amp; R. J. Kreuz (Eds.), <i>Social and cognitive psychological approaches to interpersonal communication</i> (pp. 201-225). Mahwah, NJ: Lawrence Erlbaum.</p> <p>Shechtman, N. &amp; Horowitz, L. M. (2003). Media inequality in conversation: How people behave differently when interacting with computers and people. <i>Proceedings of CHI 2003</i> (pp. 281-288). NY: ACM Press.</p> <p>Nass, C. &amp; Lee, K. M. (2000). Does computer-generated speech manifest personality? An experimental test of similarity-attraction. <i>Proceedings of CHI 2000</i> (pp. 329-336). NY: ACM Press.</p> <p>Powers, A., Kramer, A, Lim, S., Kuo, J., Lee, S-L, &amp; Kiesler, S. (2005).</p>

	<p>Eliciting information from people with a gendered humanoid robot. <i>Proceedings of the IEEE International Workshop on Robots and Human Interactive Communication</i> (pp. 158-163)</p> <p>Torrey, C., Powers, A., Marge, M., Fussell, S. R., &amp; Kiesler, S. (in press). Effects of adaptive robot dialogue in information exchange and social relations. Proceedings of HRI 2006.</p> <p>Sidner, C. L., Kidd, C. D., Lee, C., &amp; Lesh, N. (2004). Where to look: A study of human-robot engagement. <i>Proceedings of IUI 2004</i>. (pp. 78-84). NY: ACM Press.</p> <p><b>Wed.: Special guest lecture by Cristen Torrey</b></p>
<p>15. CHI CONFERENCE: NO CLASS</p> <p>Apr 24-26</p>	
<p>16. Presentations</p> <p>May 1-3</p> <p><b>Final Papers Due Friday May 12 by Midnight</b></p>	<p>Class presentations of final papers</p>