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The Rochester Institute of Technology

Department of Communication

College of Liberal Arts

Evaluating the Effect of Peer Feedback on the Quality of Online Discourse

Timothy D. Wells

A Paper submitted

in partial fulfillment of the Master of Science degree

in Communication & Media Technologies

Degree Awarded:
May 2009

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EVALUATING THE EFFECT OF PEER FEEDBACK ON THE QUALITY OF ONLINE DISCOURSE

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Degree: Master of Science in Communication & Media Technologies

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Abstract

This study explores the effect on discussion quality of adding a feedback mechanism that presents users with an aggregate peer rating of the usefulness of the participant's contributions in online, asynchronous discussion. Participants in the study groups were able to specify the degree to which they thought any posted comment was useful to the discussion. Individuals were regularly presented with feedback (aggregated and anonymous) summarizing peers' assessment of the usefulness of their contribution, along with a summary of how the individuals rated their peers. Results indicate that continuous, anonymous, aggregated feedback had no effect on either the students' or the instructors' perception of discussion quality.

Keywords:

Online Learning, Online Discussion, Computer-Mediated Communication, Discussion Quality

Table of Contents

Abstract	3
Keywords:	3
Are online discussions effective?	5
Does peer feedback influence the quality of discussion?	6
What motivates a person to contribute to a discussion?	7
Does peer feedback have any negative consequence?	7
Research Question and Hypothesis	8
<i>Theory-Based Web Design</i>	8
Cognitive Dissonance Theory	9
Planning Theory	9
Web Design	10
Method	13
Participant Feedback	15
Faculty Review	17
Results	17
Participant Perception of Quality	17
Reviewer Assessment of Quality	19
<i>Limitations</i>	21
<i>Future Research</i>	22
References	24
Table of Figure	27
Appendix A: Invitation to Potential Volunteers	28
Appendix B: IRB Review of Research Involving Human Subjects	30
Appendix C: Discussion Group Transcripts	33
Discussion Group I (with micro-feedback)	33
Discussion Group II (without micro-feedback)	36
Discussion Group III (with micro-feedback)	42
Discussion Group IV (without micro-feedback)	45

Evaluating the Effect of Peer Feedback on the Quality of Online Discourse

Web conferences with online discussions are being used in many educational and business settings (Barnes, 2003). Earlier communication research focused on the literal postings and message exchange of the discussions. Advances in the sophistication of Web conferences have the potential for adding dimensions to online communication. For example, commercial sites are encouraging visitors to input their opinions or ratings of their products and services. These simple inputs are aggregated and presented to visitors as consumer ratings or measures of “trust.” The effect of these features has not been studied in the context of online discussion. The current study adds to the understanding of online discourse by exploring the effect of aggregated peer feedback on the quality of the discussion. The author sets out to determine if adding a new dimension of peer feedback to an online discussion has a constructive effect.

In designing this study, the author reviewed the research literature for insight into the following questions: Are online discussions effective? Does peer feedback influence the quality of discussion? What motivates a person to contribute to a discussion?

Are online discussions effective?

Assessment of online discussion in educational settings have found that in computer-mediated discussions students have more frequent interactions with teachers, and group output was similar to or greater than the output in traditional discussion groups (Phillips & Santoro, 1989). Outcomes of group decision making improves when online discussions focus on issue evaluation and task completion (Salazar, 1994). However, there is research suggesting that online decision support improves the quality of the solution; it may also reduce the perception of discussion quality (Benbunan-Finh & Hiltz, 1999).

While the quantity of interactions is larger, the quality of the discourse is not necessarily better. Content analysis of discussion output shows most messages are questions and expansion on other postings with few comments suggesting integration or resolution (Garrison, 2001).

Angeli et al. (2003) looked for evidence that online conference systems fostered quality discourse. They found most of the exchanges were based on personal experiences and did not suggest well-supported reasoning. The authors suggest that future research on interactivity should study motivational and affective variables in distance education methods. The current study seeks to further understanding in this area.

Does peer feedback influence the quality of discussion?

Feedback from peers has been shown to influence group task performance. Ogilvie and Haslett (1985) found that the effectiveness of feedback depends on the dynamism and assertiveness of the message. Both the content and the form of the feedback were significant in judging effectiveness. Other studies show that the level of activity and perception of peer's engagement influence the group decision-making process (Contractor, 1996). Studies comparing group efforts to reach consensus using computer-mediated communication versus face-to-face communication find that computer-assisted groups have difficulty coordinating their interaction (Poole, 1993). This has been attributed to lack of informational feedback and absence of social cues and norms (Kiesler, 1984). In a study of the use of a Web conference with mandatory peer review of classroom assignments, by Warren and Rada (1999) report some correlation between volume of messages and cognitive level of the comments. The authors suggest that computer-mediated communication system should be modified to encourage peer assessment. The current study contributes to this line of investigation.

What motivates a person to contribute to a discussion?

Research suggests that participation in online discussions is related to self-efficacy. The perception that others value a contributor's information influences the degree of participation (Kalman, 2002). Higgins, Flower and Petraglia (1992) report a correlation between the quality of student's work and amount of reflective conversation within the group. Thick interpersonal dialogue and social exchange tend to motivate the creation and support of online communities (Kruse, 2001).

The current study explores these ideas by encouraging participants to share their perception of others' contributions. It tests these ideas by determining whether adding this reflective information has any effect upon the perceived quality of the discussion.

Does peer feedback have any negative consequence?

While there is evidence that feedback and reflective communication have many positive effects, there is also evidence that peer feedback has negative consequence. Cox's (1999) work shows how co-worker communication has the ability to motivate the exit of other workers. The Reduced Social Cues Theory discussed by Kiesler, Siegel, and McGuire (1984) suggests that lack of social cues and the condition of anonymity tend to weakening of social norms allowing for depersonalization of peers.

In the present study, participants might be overly harsh in their ratings of other's comments and react negatively to what might be perceived as unjust or hostile criticism. Participants were surveyed to gauge how the feedback was perceived and how the feedback influenced the quality of the discussion.

Peer feedback may have negative consequences, but there is evidence that training can improve the likelihood of more positive effects. Zhu (1995) showed that training students in peer response was effective at improving group interaction. The current study presents participants with tutorials on the use of the peer feedback function.

Research Question and Hypothesis

The study examines the relationship between peer feedback and perceived quality of online discussions. Is the perceived quality of an online discussion affected by aggregated, anonymous peer feedback on the relative usefulness of the individual's contributions? All subsequent references to this feedback mechanism will use the term “micro-feedback.” The study's hypothesis is “In an online asynchronous discussion, the perceived quality of the discussion will be higher within an environment that integrates peer feedback.”

Theory-Based Web Design

To explore the research question, the author constructed a Web-based discussion forum. The discussion conference presented multiple topics. Each topic had a threaded discussion where participants could post their ideas and respond to one another's postings. The unique feature was an invitation to rate postings. When participants in the study group read another person's posting, they were invited to indicate how useful the comment was to the discussion. Participants could click on a four-point scale ranging from “Not Useful” to “Very Useful.”

Feedback was presented in the study group each time a participant signed onto the conference. Two simple bar graphs were displayed: one showing the distribution of other's responses and the other was showing how the participant responded to others.

The design of the research environment was informed by Festinger's cognitive dissonance theory and Berger's planning theory.

Cognitive Dissonance Theory

In any discussion, participants are likely to encounter specific comments that contradict or disparage their previous remarks. After posting any given idea, a colleague may post a reply expressing a conflicting point of view. By providing additional feedback aggregating all of the peers' ratings of relative usefulness, the individual may face the added dissonance of information suggesting that, in general, others in the group are not finding value in his or her comments. Cognitive dissonance theory suggests that an individual will try to reduce the dissonance by ignoring or dismissing the dissonant communication (Festinger, 1957). The theory suggests that the individual may seek new information to try to outweigh the dissonance. The individual may actually change his/her own beliefs so the communication is no longer an irritant. The Web forum was designed to exploit the potential for cognitive dissonance. The dissonance occurs if the displayed bar graphs are inconsistent with the participant's perception of their relative contribution. If the participant feels he or she is contributing positively to the discussion, but the feedback indicates his/her peers do not agree, the individual might resolve the dissonance by trying to provide more helpful comments. The individual may also resolve the dissonance by quitting the conference entirely or simply ignoring the feedback.

Planning Theory

Charles Berger's planning theory suggests a similar scenario. Planning theory asserts that people use language to satisfy goals (Berger, 2003). If a goal is thwarted and the participant

believes the goal is important, the individual persists with a different strategy. The tendency is to alter the goal at a more concrete level rather than an abstract level. Participation in the Web forum is the goal. Specifically, the goal takes the form of the set of questions posed to the participants at the beginning of the conference. Peer feedback suggesting the participant is not meeting the goal of active participation is evidence that the goal is not being achieved. Planning theory suggests that the participant will look to specific, concrete changes of plan. Posting additional and more useful comments to the discussion is a specific plan adjustment that moves the participant toward his/her goal.

Web Design

The environment created to support this study allowed the author to divide a conference into topics, each topic having its own discussion area.

The discussion is presented as a list of messages. Clicking on a message displays the full text in a separate window. Participants added messages to the discussion through a form. The message was added to the discussion thread with the participant's name and photograph.

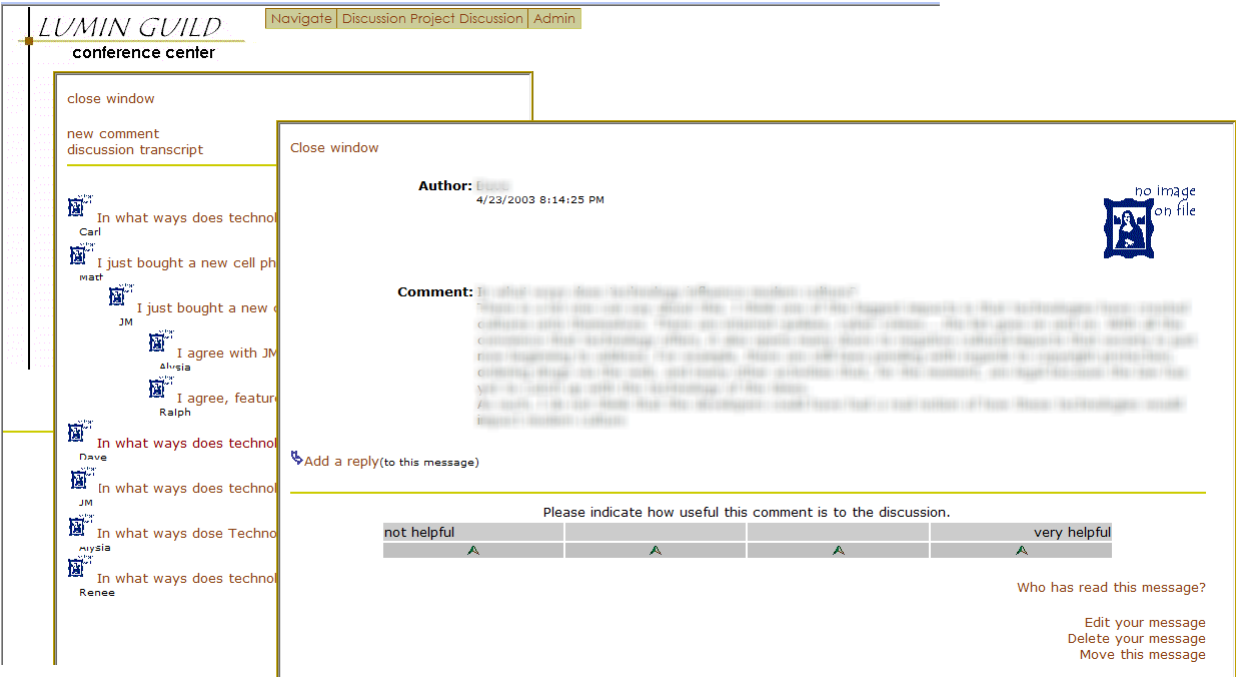


Figure 1 Threaded Discussion and Message Rating Scale

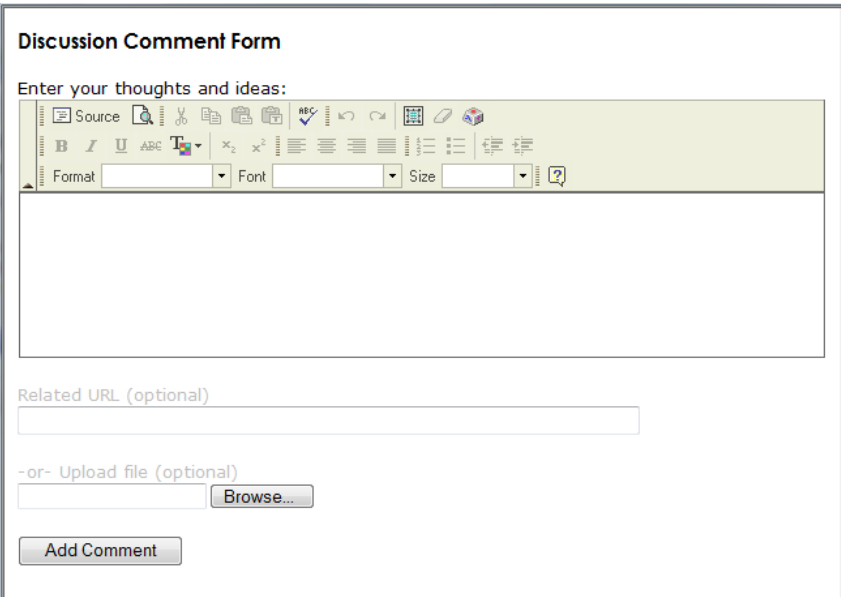


Figure 2 Discussion Comment Form

The researcher could specify whether a discussion would include micro-feedback evaluation. Discussions with the feedback mechanism enabled display a survey question at the

bottom each message. When a participant reads another's message, he or she has the opportunity to provide feedback by clicking on a scale ranging from “not helpful” to “very helpful.”

These message-specific micro-evaluations are never displayed. Rather, they were aggregated and presented to the participant as a summary in the form of bar graphs.

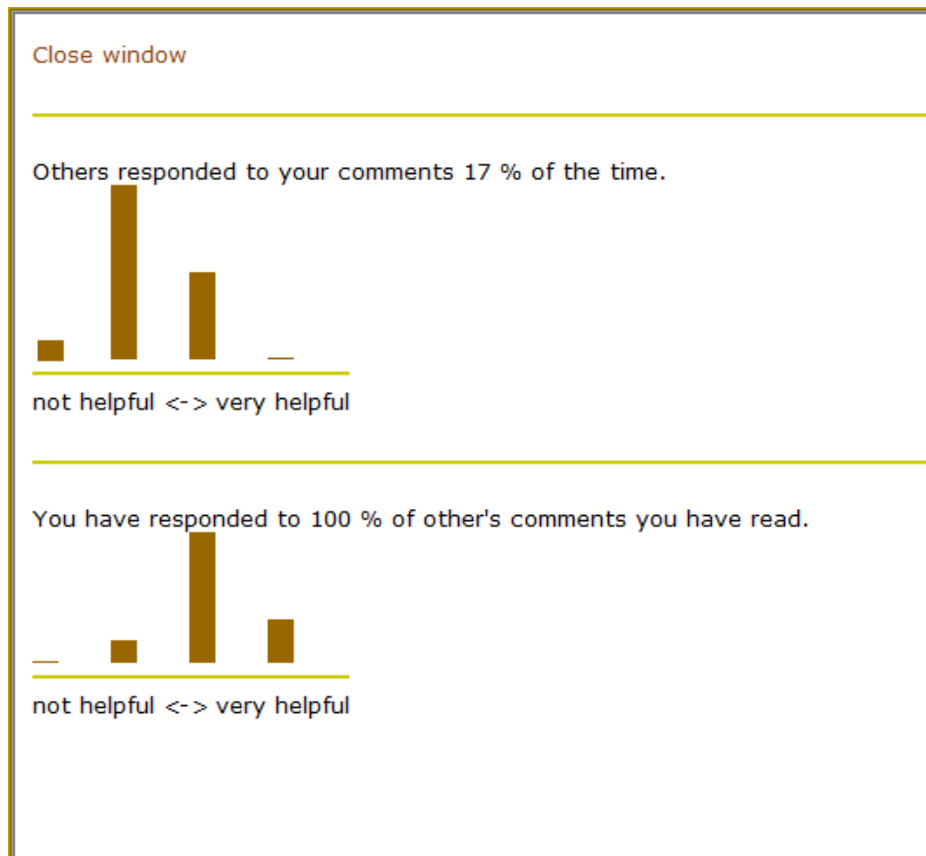


Figure 3 Feedback Display

One graph shows the distribution of other's responses to the participant's messages. This graph reflects all micro-evaluations of all the individual's messages. The other graphs shows the distribution of the participant's reviews of other's messages allowing individuals to see the relative distribution of reviews of other's postings from very critical to very complimentary.

Graphs were displayed each time the participant signed on to the conference.

Method

Students at Rochester Institute of Technology were asked to participate in an online discussion on the relationship between technology and society. Thirty-one student volunteers were randomly assigned to one of four discussion conferences – creating discussions groups of seven or eight participants. Two of the conferences included the micro-feedback mechanism and two did not. Each participant was provided a tutorial on the conference environment including instruction on how to post comments and select a topic, and (if they were members of the study group) a description of the micro-feedback display. Each conference consisted of three discussion topics. Topics were seeded with open-ended question, each topic with its own discussion area.

Exploring Technology and Society

In what ways does technology influence modern culture?

How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life?

Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society?

The Technician's Role

What responsibilities (if any) do the developers of technology have for technology's influence on modern culture?

Should software and hardware developers consider the effect of their work, or are those who develop technology simply neutral players?

The Consumer's Role

What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture?

Should consumers consider the effects of their use of technology, or are they simply neutral players?

The participants navigate to the discussion areas via menu selection.

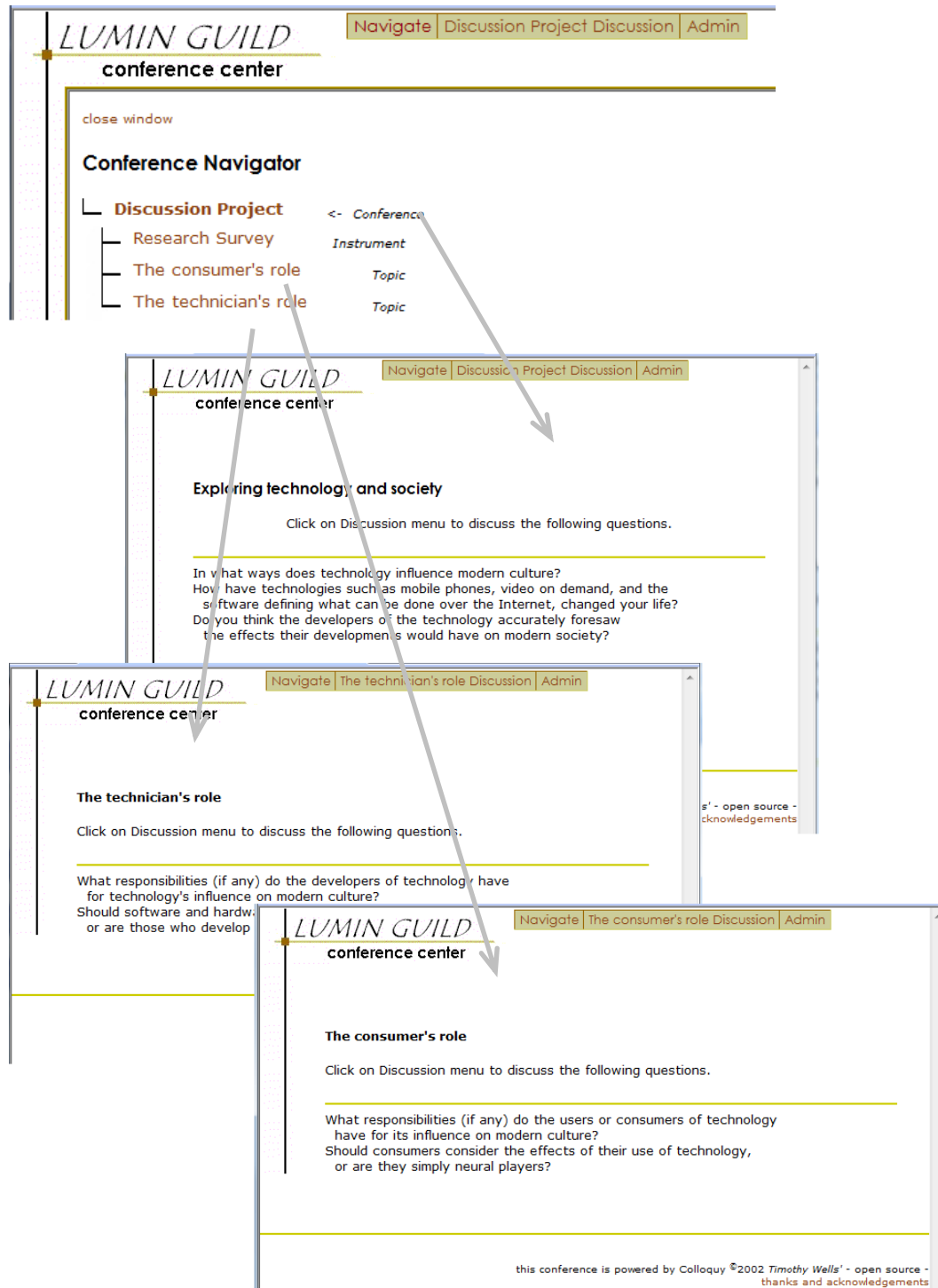


Figure 4 Discussion Navigation

The discussion conferences were open for three weeks. After the open discussion period, participants were asked to complete a survey asking to what extent they agreed with statements about the conference.

Participant Feedback

All participants were also asked to respond to the following statements about the quality of the discussion:

- I felt good about the quality and depth of the discussion.
- The actual content of the discussion was not meaningful.
- I learned a lot from the discussion.

Volunteers in the conferences where the micro-feedback mechanism was enabled were also asked about rating other's messages and viewing the bar graphs:

- The discussion summary made me more aware of what I was writing.
- I liked seeing the overall response to my part of the discussion.
- Knowing that others were evaluating my postings made me uncomfortable.
- I liked seeing that my comments were seen as useful to other participants.
- When I saw some of my comments were not very useful I wanted to quit.

All participants were presented with statements about the user interface, the specificity of the topics discussed, the display of participant's photos, and the mechanics of reading and replying to messages:

- Seeing the image of the other participants contributed to the quality of the discussion.
- The introductory tutorial was helpful in becoming familiar with the environment.
- It was good to have specific questions to discuss.

- The outline presentation of the threaded discussion was difficult to understand.
- Email notification of discussion changes helped keep the conference active.
- Knowing that others could see my image made me uncomfortable.
- I would prefer more general topics to explore in the discussion.
- The email notification was bothersome.
- The discussion outline was an effective way of presenting the threaded discussion.
- What other features would have added to the quality of the discussion?

All participant surveys were conducted via a web form built into the conference environment.

The screenshot shows a web form titled "LUMIN GUILD conference center". At the top, there is a navigation bar with links: "Navigate", "Research Survey Discussion", and "Admin". The main heading is "Research Survey". Below this, a paragraph reads: "Thank you for participating in this project. Your feedback is extremely useful in evaluating the characteristics of the discussion utility. Thinking back over the course of the discussion, please indicate the degree to which you agree or disagree with the following statements."

There are five numbered statements, each followed by a dropdown menu for response options:

- 1) Seeing the image of the other participants contributed to the quality of the discussion. (Dropdown: Strongly Agree)
- 2) I felt good about the quality and depth of the discussion. (Dropdown: Agree)
- 3) The introductory tutorial was helpful in becoming familiar with the environment. (Dropdown: Agree)
- 4) Knowing that others were evaluating my postings made me uncomfortable. (Dropdown: Disagree)
- 5) It was good to have specific questions to discuss. (Dropdown: -)

The dropdown menu for statement 5 is open, showing the following options: Strongly Agree, Agree, Disagree, and Strongly Disagree. The text "ntation of the threaded discussion was difficult to understand." is partially visible to the right of the dropdown.

Figure 5 Participant Survey

Faculty Review

Six faculty members assessed the quality of the discussion. The discussion transcripts from the Web conferences were extracted. Nicknames used by the student participants during the discussion were replaced with gender-neutral names. The transcripts of the four discussions were printed and distributed to the faculty members along with a survey asking the degree to which the reviewer agreed with the following statements:

- The discussion reflects a high degree of insight into the topic.
- The discourse was effective at exploring the topic.
- The participants were helpful to each other in exploring the topic.
- I would be pleased if this discussion had occurred in my classroom.

Results

Participant Perception of Quality

The total number of individual messages in each discussion group ranged from 21 to 36. On average, each participant posted four comments. The average length of a comment was approximately 100 words. The transcripts of the discussions are included in Appendix C.

The participant's survey results (i.e. questions relating to the perceived quality of the discussion) were analyzed to see if the answers suggested different populations. The values assigned to answers in the survey were:

No Response	= 1
Strongly Agree	= 2
Agree	= 3
Disagree	= 4
Strongly Disagree	= 5

In the averages that follow, values between 2 and 3.4 indicate agreement with the statement. Values between 3.5 and 5 indicate disagreement with the statement.

To the questions related to discussion quality:

Question 1: "I felt good about the quality and depth of the discussion."

	with feedback	without feedback
Average	3.3	3.3
Std. Deviation	0.48	0.48
Mann-Whitney	u = 50 p = 0.48	

Question 2: "The actual substance of the discussion was not meaningful."

	with feedback	without feedback
Average	3.7	3.9
Std. Deviation	0.48	0.74
Mann-Whitney	u = 38 p = 0.19	

Question 3: "I learned a lot from the discussion."

	with feedback	without feedback
Average	3.4	3.5
Std. Deviation	0.97	0.85
Mann-Whitney	u = 55.5 p = 0.35	

Mann-Whitney Tests were computed for each of the survey questions. Mann-Whitney was used because the dependent variable (the perception of discussion quality) constituted an ordinal scale. Further, there was no indication that the populations have a normal distribution.

The simple averages show a very slight indication toward higher perception of quality for discussions in the groups where the micro-feedback feature was enabled. However, there was no significant difference between the responses from the participants in the micro-feedback environment and the responses from the participants in the control environment.

Reviewer Assessment of Quality

Similarly, the evaluations of the faculty member's reviews showed little difference in the perceived quality of the discourse between the two groups. The values assigned to answers in the reviewer's survey were:

Strongly Agree	= 4
Agree	= 3
Disagree	= 2
Strongly Disagree	= 1

In the averages that follow, values between 1 and 2.5 indicate disagreement with the statement. Values between 2.6 and 4 indicate agreement with the statement.

"The discussion reflects a high degree of insight into the topic."

	with feedback	without feedback
Average	3.25	2.9
Std. Deviation	0.45	0.29
Mann-Whitney	u = 49.5 p = 0.102	

"The discourse was effective at exploring the topic."

	with feedback	without feedback
Average	3.0	2.8
Std. Deviation	0.60	0.72
Mann-Whitney	u = 62 p = 0.55	

"The participants were helpful to each other in exploring the topic."

	with feedback	without feedback
Average	3.25	3.3
Std. Deviation	0.62	0.58
Mann-Whitney	u = 66.5 p = 0.29	

"I would be pleased if this discussion had occurred in my classroom."

	with feedback	without feedback
Average	3.17	2.9
Std. Deviation	0.72	0.79
Mann-Whitney	u = 59 p = 0.72	

The Mann-Whitney analysis of the question reflecting the degree of insight showed no significant difference between the two groups (i.e. the U value approached the lower limit). None of the other questions showed significant differences either.

The author concludes that neither the participant's responses nor the reviewer's responses reflect evidence in support of the study's hypothesis. Thus, the hypothesis "In an online asynchronous discussion, the perceived quality of the discussion will be higher within an environment that integrates peer feedback," is not supported.

Limitations

The study did have limits that may have influenced the outcome. Both of the theories cited earlier in support of the Web forum's design, discuss the importance of the participant being aware of (or engaged in) the event.

There is no evidence that the participants perceived that the pattern of responses was an expectation. Several participants expressed concern that they did not know how to respond to the bar graphs. They did not know if the pattern they were seeing was of interest (let alone what the patterns might suggest for future action). The author included definitions in the tutorial provided to every participant, but no statement was included to define goals or expectations. Future research could explore ways to establish expectations. For example, instructions could include a statement that the data in the bar graphs is significant and the participant should work to create a graph similar to this:

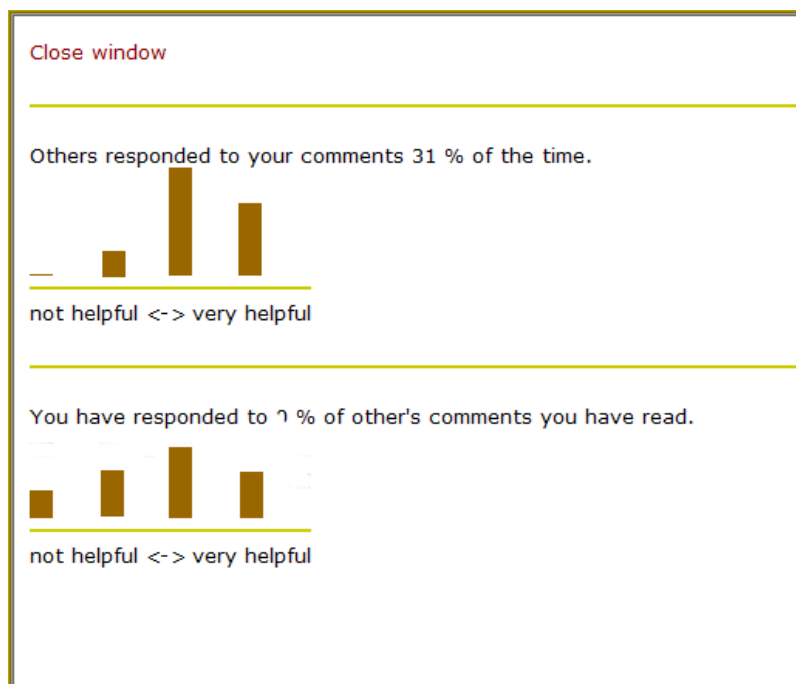


Figure 6 Idealized Feedback Display

The first graph is skewed to the right indicating the peer group finds the individual's contributions to be constructive. The second graph indicates that the individual is as likely to be critical as to be complimentary. Clearer description of the feedback might help establish a goal of engaged participation with the display as a measure of progress toward that goal.

The subject of the discussion also has an effect. Several participants commented that the topic was too general for specific, in-depth dialogue. A conversation on a subject of current academic coursework may yield different results from an open conversation about the effect of technology on society. If all participants were taking the same course, and the questions related directly to material in course assignments, greater motivation could be anticipated for active engagement in the discussion along with attention to the quality of the discourse.

Future Research

Future research should address the limitations discussed in the previous section. In addition, future research should explore the effect of more direct and obvious feedback. For example, the information could have been presented in the form of a relative ranking, showing where the individual ranked relative to other participants. Seeing that other participants (even if they are nameless in the display) were being ranked higher (or lower) may have an effect on an individual's participation.

The current study focused on the perception of quality in online discussion. Future research should broaden the dimensions of quality to include content analysis of the transcripts and objective expert assessment of the content.

Several participants in the current study commented that there was not enough time for the discussion to develop. An aim of future research should be to gain greater understanding of how the quality of an online discussion changes over time. The discussion postings in the current study showed little evidence of relationship building. Participants generally liked the idea of seeing a photograph of the author as he/she was reading and responding to a posting.

However, a broader investigation of discourse quality needs to include some measure of the degree of participation. The current study did not measure behavior. The software built for the study did capture events that might reflect behavioral differences. The system recorded the number of messages posted and the number of participants who opened the messages (presumably to read them). The record indicates a low rate of participants reading the posted messages. An ideal condition might be that every participant read every message (100%). The four groups observed had far lower rates of reading other's messages (44%, 55%, 66%, and 75% respectively). Future research could explore the relationship between degrees of activity/participation and measures of quality.

Forums designed deliberately to encourage more personal, team-building information could influence the group's ability to engaging in constructive dialogue.

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Table of Figure

Figure 1 Threaded Discussion and Message Rating Scale 11

Figure 2 Discussion Comment Form 11

Figure 3 Feedback Display 12

Figure 4 Discussion Navigation..... 14

Figure 5 Participant Survey 16

Figure 6 Idealized Feedback Display..... 21

Appendix A: Invitation to Potential Volunteers

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Invitation to be sent to students:

=====

To: Those interested in online discussion

From: Timothy Wells (tdw@it.rit.edu) Graduate student, MS Communication & Media Technology

Re: Request for research support

I am conducting a research study on the effect of computer mediated communication features on the quality of online discussions. My general research question is: To what extent do various design features influence the quality of on-line discussions.

What is being asked of you?

- 1) Prepare an image of yourself.
- 2) Sign-on and participate in the asynchronous discussion (15 minutes / once a day / for a week).
- 3) Complete a survey (20 questions).

How does it work?

You 'sign up'.

I send you a URL, username, and password.

You discuss the presented issue with others in your group (using Netscape 7 on Mac or IE 6 on Windows).

In a week, or so, you complete a survey.

Assurances.

Personal information is kept confidential.

Nothing from the discussion will influence your grade for this course.

Your professor is not given access to the discussion area.

No personally identifiable information is distributed to anyone or published anywhere.

Contact Timothy Wells at tdw@it.rit.edu or sign-up at <http://colloquy.it.rit.edu/research>

Name,

Thank you for your interest in my Online Discussion Research Project.

Please visit <http://luminguild.com/conference> and sign in.

Your username is: *username*

Your password is: *password*

Move the cursor over 'Conferences' and select 'Tutorial'. This is a brief overview of the discussion conference and its features. Read through the first page. Then select a topic under the 'Tutorial' menu for additional information.

After you are reviewed the tutorial, select 'Discussion Project' from the 'Conferences' menu. The first page poses some questions for you to discuss. You can begin posting your thoughts by clicking on the 'Discussion' menu.

Related questions can be found by selecting the 'Discussion Project' menu. Each one of the relation topics has its own discussion area. Select a subtopic, and then click 'Discussion' to discuss that specific question.

If you know of others who might be interested in participating, please ask them to visit <http://colloquy.it.rit.edu/research> or send me email at tdw@it.rit.edu

If you have questions, please contact me at tdw@it.rit.edu

Thank you for your participation.

Yours,

Timothy Wells

Graduate student in MS Communication and Media Technology

tdw@it.rit.edu

Appendix B: IRB Review of Research Involving Human Subjects

**Rochester Institute of Technology**

Institutional Review Board
For the Protection of
Human Subjects in Research
54-Lomb Memorial Drive
Rochester, New York 14623-560
Phone: 585-475-7983
Fax: 585-7990
Email: mmkgcip@rit.edu

Form A**Request for IRB Review of Research Involving Human Subjects**

To be completed by investigator after reading the RIT Policy for the Protection of Human Subjects in Research, which may be found in the Institute Policies and Procedures Manual, Section C5.0, or on <http://www.research.rit.edu> (select Policies button). Send completed form to Marsha Konieczny, Senior Administrative Assistant, RIT Institutional Review Board, 1260 Carlson Building. *Research requests initiated within NTID should be forwarded to Robert Whitehead, Chairperson, 1309 Carey.*

1. Investigator's Name: Timothy Wells Phone Number: x5-7136
2. Investigator's SSN: Investigator Email: tdw@it.rit.edu
3. Campus Address: Bldg 70 Rm 2617
4. Date Submitted: January 29, 2003
5. If student, name of Faculty Supervisor: Prof Rudy Pugliese
6. Faculty Phone: x5-5925 Faculty Email: rpgsl@rit.edu
7. Project Title: Evaluating the Effect of Continuous Peer Feedback in On-Line Discussions
8. Project Start Date:
9. Project Sponsor: ☐ None ☒ Thesis MS Communication & Media Technology
10. Status of project: ☐ Submitted on ____: ☐ Funding pending ☐ Funding confirmed
11. Does the investigator have a financial relationship with the sponsor? ☐ Yes ☒ No. If yes, please read RIT policy: C4.0 - CONFLICT OF INTEREST POLICY PERTAINING TO EXTERNALLY FUNDED PROJECTS. Complete the Investigators Financial Disclosure Form and attach that to this Form A. *All information will be kept confidential.*
12. Description of criteria and subject selection procedures, including number, sources, etc.: Students in winter quarter classes will be asked to volunteer to review a web-based discussion conference. The only criteria is willingness to participate in a discussion related to their course and complete a survey.

13. If informed consent is to be obtained, attach completed, unsigned copy of the form that will be given to subjects and/or parents or guardians. Forms are available from Grants, Contracts, and Intellectual Property at 475-7983 or mmkgcip@rit.edu. You can also request a Sample Informed Consent form.
14. Expected benefits to subjects or contributions to new knowledge, if any: (If an abstract of the proposed research has been prepared, please attach it to this form.):
Results of this research will define design feature and procedures for online discussion utilities that encourage active, critical, and engaging interaction supporting constructive learning (see attached)
15. Summary description of types of existing data to be used in project, if any, including whether they were originally collected primarily for research purposes: _____
16. Variables involving direct participation of subjects. Indicate treatment procedures and nature of data to be collected; attach copy of test, questionnaire, survey, interview protocol, or other similar instruments:
The research collects the threaded discussion and the results of a survey asking for participants reaction to the discussion utility (see attached)
17. Time required of each subject and whether participation will involve class time or out-of-class time:
Visiting web discussion once a day for one week. Approximately 10-20 minutes per visit. Total of approximately 1-2 hours.
18. Describe any possible risks of injury to subjects, whether physical, emotional, or mental, even if only remote or negligible in their effects, and steps taken to minimize these risks and/or reduce injury:
Participant may feel upset if their peers evaluate their participation as 'not helpful'
19. Describe how subject responses will be kept confidential throughout the project:
Only participants are given passwords to the conference. Their instructors are NOT given access to the conference. Instructors will be asked to evaluate the quality of the discussions. This will be accomplished by providing the instructor a transcripts of the discussion with participant names replaced with aliases.

Signature of the Investigator

Signature of Dept. Chairperson or Supervisor

Date of Signature

Date of Signature



Rochester Institute of Technology

Institutional Review Board for the
Protection of Human Subjects in Research
141 Lomb Memorial Drive
Rochester, New York 14623-5604
Phone: 585-475-7525
Fax: 585-475-7990
Email: mkzgrip@rit.edu

Form C
IRB Decision Form

TO: Timothy Wells – Investigator
Rudy Pugliese – Supervising Faculty

FROM: RIT Institutional Review Board

DATE: April, 2003

RE: Decision of the Institutional Review Board

Project Title: *Evaluating the Effect of Continuous Peer Feedback in on Line Discussions*

The Institutional Review Board (IRB) has taken the following action on your project named above.

☒ Approved as Type I. No Informed Consent is required. However, the IRB recommends you should add a statement in your instructions as to how this survey will be conducted. Make sure you reinforce to the students that their participation in this study will not in any way impact their grades.

Now that your project is approved, you may proceed as you described in the Form A. You must promptly report to the IRB any proposed modifications, unanticipated risks, or actual injury to human subjects. If the project extends more than 12 months, the IRB will send you a Form F, which you need to complete and return to the IRB.

Good luck with your study.

Marjorie Zack
Institutional Review Board Administrator
(On behalf of Kathleen Chen, IRB Chair)

cc: IRB Members

Revised 6/24/02

Appendix C: Discussion Group Transcripts

*Discussion Group I (with micro-feedback)***Exploring Technology and Society**

In what ways does technology influence modern culture?

How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life?

Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society?

- > Dale: In what ways does technology influence modern culture? Technology has a major influence on modern culture as proven by history. Take for example, the evolution of technology, which includes the early forms of communication that started with hand gestures, moved towards a vocal form of communication, to writing, to the printing press (books, magazines, newspapers) to the radio, to the TV, to computers, to the Internet. Additionally, technology not only influenced modern culture intellectually, but it also physically; it influences our efficiency (increases thru put), it also reduced the amount of work in our personal lives for example, household chores (cooking, cleaning, washing clothes, etc.) How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life? Technology has brought the world much closer, greatly reduced time lapses between people communicating over great distances. The Internet, however, has the greatest personal impact on me because it made on-line learning possible, and brought world knowledge to my fingertips. I have never been interested in doing research that required me to visit a library, now thanks to the Internet; I can do all my research from my computer both at home and on the go. Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society? No, I do not believe it was possible for anyone to accurately foresee the effects technology would have on modern society. Weather forecasters can barely predict tomorrow's weather with all their high-tech equipment. Therefore, it is not possible to accurately predict an outcome of an idea / technological advancement. However, I sure there was some indications some technologies would be better off than others.
- > Regan: I just bought a new cell phone this week, the nokia 3650. This phone does everything; infrared, camera, video recorder, mp3 player, gprs data(web), and you can even make a call on it. When signing up for this discussion forum I wondered how would I get my pic uploaded. Well, I used the phone to take my picture, then I sent it to my computer via email from the phone. Wow, was that easy. This is just an example of how powerful technology has become in our society. Developers see that each step of the way the impact of new technologies have on the everyday life. This keeps the developers dreaming up new technologies that they foresee as evolving and making our lifes more efficient. Determining if developers can foresee the effects of Internet applications is difficult. What they might foresee as the benifit may end up being used totally different by users. But the end result is the same, modern society continues to evolve with new developments in technology. Regards, Regan Holmes
- = > Tracy: I just bought a new cell phone this week, the nokia 3650. This phone does everything; infrared, camera, video recorder, mp3 player, gprs data(web), and you can even make a call on it. When signing up for this discussion forum I wondered how would I get my pic uploaded. Well, I used the phone to take my picture, then I sent it to my computer via email from the phone. Wow, was that easy. ----- I guess the question is how much you will use all these features in two weeks time. They are cool now, but many of these toys we buy end up doing what their predecessors did years before, because that's all we use them for...
- = = > Ashton: I agree with Tracy with how fast our technology is changing many of these "new" features within a couple of months are outdated.
- = = > Avery: I agree, features un-used are useless? Regarding the topic in general, the effect on Modern society is pervasive and seems to be relentless. Are we all becoming victimized by "gadget glut?" Do we really need all of this STUFF? it is really neat, I for one dont want to go back to the Pioneer days (and I dont mean the electronics company). But I am cautious to bye for the sake of having the newest gadget for the sake of having it...
- > Alex: In what ways does technology influence modern culture? There is a lot one can say about this. I think one of the biggest impacts is that technologies have created cultures unto themselves. There are internet-junkies, cyber-

crimes....the list goes on and on. With all the convenience that technology offers, it also opens many doors to negative cultural impacts that society is just now beginning to address. For example, there are still laws pending with regards to copyright protection, ordering drugs via the web, and many other activities that, for the moment, are legal because the law has yet to catch up with the technology of the times. As such, I do not think that the developers could have had a real notion of how these technologies would impact modern culture

- > Tracy: In what ways does technology influence modern culture? One need only go to the movies on a Friday night to see that technology influences culture. The cell phone ringing that interrupts the movie will show you that we are a technology based society. Technology has had a major influence on modern culture. From communications to transportation, we have developed on the back of technology. The industrial revolution, and it's important to our history shows the over-reliance that we have... How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life? Communications technology has changed the world. Look around when they open a plane's door and see everyone 'checking in'. We are always in touch with the house, the office and even the markets. Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society? No, I do not believe it was possible for anyone to accurately foresee the massive impact of the availability of information. The internet, for instance, has so much information that we can't possibly imagine it's scale.
- > Ashton: In what ways does Technology influence modern culture? Technology influences modern culture because it enables people to communicate around the world, creating more of a globalized society. While technology makes life more convenient, entertaining and expands our contacts but it can also create social isolation. One theory that has arisen with the increasing influence of technology is Technorealism. This theory emphasizes the importance that we think critically about the role that technology tools and interfaces play in modern human culture, evolution and everyday life. Because technologies come loaded with both intended and unintended social, political, and economic leanings making them not free of biases. Every technological tool offers a different way of seeing the world and a specific way of interacting with others making it important for each of us to consider the biases of various technologies. All around us, information is moving faster, becoming cheaper to acquire and the benefits are clear. But we must not confuse this flow of acquiring and distributing of information we should recognize how information is becoming an enormously powerful social force. Understanding technologies strengths and weakness is an important part of being an involved citizen but we should not let them substitute for our own basic cognitive skills of awareness, perception, reasoning, and judgment..
- > Julian: In what ways does technology influence modern culture? I found some of the other comments to be very interesting. In particular, Alex talked mostly about the negative aspects of technology, how we seem to be playing 'catch-up' with regards to regulating some of the activities that the newer technologies have made more accessible/possible. I think that we could find examples of this throughout the past and it's that ability to stay flexible and grow with the technologies that is one measure of our society. From my experience working at a large corporation I've seen first-hand the 'pains' involved with any change. It will always be resisted at first, but those changes which we find merit in will eventually be interwoven into our daily lives. Ashton brought up the issue that I was going to raise. Technology has a profound effect on our culture. It defines what we see as 'normal' or 'expected'. Not that long ago we were still using libraries and snail mail to communicate or get information. Now it seems that the world is at our fingertips. The ways we communicate are influenced by technology. No longer do you need to 'be there' to be involved in conferences, classes, family events. But this 'virtual attendance' does open the door to a reduction in personal communication. Face to face discussions can be replaced by e-mails which cannot communicate true feelings and intentions among the participants. But we can already see the flexibility and ingenuity of our society in an attempt to address this issue. Conference phones with live feeds, video conferences, etc all try to bring the participants closer. I believe these are steps in the right direction as seeing a person is very important in getting the full messages communicated. Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society? I don't think that developers of technology have EVERY accurately foreseen future effects of their work. This question brings to the mind the invention of the phonograph by Thomas Edison. He never imagined that the phonograph would ever record anything but the spoken word. Yet, this invention paved the way for entire radio industry.

The Technician's Role

What responsibilities (if any) do the developers of technology have for technology's influence on modern culture? Should software and hardware developers consider the effect of their work, or are those who develop technology simply neutral players?

- > Regan: I wouldn't say that developers have a particular responsibility to modern culture. Developers are inventors, they have an idea and find a way to build that idea. As far as effects of their work, they might think that what they are building should be used in a particular way, but in the end the users decide acceptance and usability of the technology. Since they can not force users to use the technology in a particular way, they are a neutral player. Regards, Regan Holmes
- = > Avery: I think I would disagree, Developers/Inventors, etc... have a responsibility to modern culture. The impact of "things invented" is real and warrants some degree of thought. For example, the invention of a nuclear bomb. In this case, the "root invention/discovery" (the energy given off as a result of splitting atoms) was Mr. A.E. himself. In fact, he probably didn't even consider the use of this information beyond a proof. So, his level of "responsibility" is relatively low when compared to those in Los Alamos who actually put the information to destructive use. But then again, who is to say that the information might not have been put to destructive use anyway, and by us controlling the information we in a way minimized the destructive power? But onto a more recent "cultural impact/responsibility" the invention of the "WEB BROWSER." What an impact indeed, I remember the day when you would need a special client side application and a very specific computer to dial into so you could "get on the NET." When the browser came about (Sometime in '93 or so???) the WWW was born and the way we look at the world has forever changed. Now, we all have so much freedom of movement across the WWW landscape it is truly amazing. But just as with Atomic energy, the implementation is either good or evil. Bottom line is that I know of, but cannot remember the name of the organization, who's members take an oath of "responsible and ethical Engineering." I for one do not believe, people who engineer or develop anything can claim a passive roll in the shaping of modern culture. Check out the link regarding Ethical Engineering Practices for more information. Thanks,
- = > Julian: Hi Regan. I wonder if you would feel the same way if we were talking about the cloning issue? Or about development of new nuclear, chemical or biological warfare? I'm not attacking you. I just know some really talented folks who have turned down particular jobs because they didn't agree with the intended (or even unintended) use of the technology they would be involved in. I just think it goes too far to say that developers are neutral players. I think we each need to remember we live in a society that we are a part of and we have to be able to deal with the consequences of our actions.
- > Dale: I believe the developers have a responsibility to both their technology and modern culture. One of their responsibilities should include, for example, a user friendly "man- to-machine" interface because without that, the end user will reject the technology and the technology is likely to fail or at least not reach its potential. Thus, a new technology might never get off the ground. However, implementing user-friendly designs cost money and despite the fact that developers may want to produce the best technology, their designs might be hampered by their financial backers, rendering them a neutral player.

The Consumer's Role

What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture? Should consumers consider the effects of their use of technology, or are they simply neutral players?

- > Julian: What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture? I believe that the consumer has at least as much responsibility as the developer. Consumers make these personal decisions daily. Should I take advantage of legal abortion procedures? Should I use contraception? Should I allow my loved one to live on respiratory machines? By consumers using the technology, we are saying it's OK to develop these kinds of technology. If businesses move towards fewer face-to-face conferences and replace with virtual conferences, then we say that this replacement of personal contact is OK. Our actions as consumers give the green or red light to the inventors and those who fund them. We have the ultimate responsibility, don't we??
- = > Avery: I am in agreement that consumers ultimately must use or even buy the "technology" in order for it to survive. To say that a consumer has a "responsibility" as if to say that if he or she did not buy a particular thing it would not exist? I am not so entirely certain, though your point is well taken for a number of "things" for example your argument would apply especially where music was concerned.

Discussion Group II (without micro-feedback)

Exploring Technology and Society

In what ways does technology influence modern culture?

How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life?

Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society?

- > Carmen : In what ways does technology influence modern culture? How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life? Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society? The general "strive" is to make life easier/more convenient. Unfortunately, there have been no dramatic new technologies in many years. Yes, advancements have been made, but there's been nothing new in a long time. Mobile phones still have many "dead" areas—too many to make them replacement for conventional phones, but the incentive is there. It's cheaper to use a cell phone to make long distance calls and I do know people that have, more or less, replaced their home phone with their mobile. It's easily done if you're in an area for it. Computers still have a ways to go and as far as speed, usability and portability. However, as usual, only Apple is making any advancement towards the betterment of the technology and bringing it all together. Their "digital hub" focus and their iLife applications make it very easy to "play" and share: pictures, videos, music, phone, and PDA information. I think the growth of the Internet took many by surprise. One would be hard pressed to cite another technology that has spread as quickly. From finding information on ANYTHING you wish, to providing a quick and easy gateway to keeping touch with anyone, anywhere; it has provided so many conveniences that it's hard to imagine living without it at this point. In my case, as an example, it has allowed me to go back to school at a good college that I wouldn't have normally been able to attend. The "distance" learning fits perfectly into my life, and as a new father and part owner of a business, there is simply no way (and no desire) I'd be physically able to "go" to school at this point.
- > Bernie: I think that technology has made modern culture a faster paced society. We can buy stock instantaneously, we can speak to someone from almost anywhere, and of course, we can have discussions like this without ever seeing one another. The fact that we all are able to complete our degrees online is an amazing thing. My cell phone is one of those things that seems indispensable. I'm not quite sure how I got along without it. I can order a pizza from my daughter's school and pick it up on the way home. In certain situations, if I'm lost, I can call to get directions. Video on demand has not done much for me, as I don't make that much use of it (with the exception of streaming videos for classes). At this point, even with a DSL connection, the quality for streaming video is too poor for it to be that useful. On one or two occasions, I have watched a news video, but the images and the sounds were too poor for me to gather enough information from them. In terms of software, I would disagree with Carmen's opinion that Apple is the only company really making strides towards the "betterment of technology and bringing it all together." While Microsoft has caused headaches for all of us, the new Tablet PC is an exciting new innovation that combines a PDA, a laptop and other great features. Also, there are other small companies, such as 3COM, that have contributed a great deal in terms of computing and tech advances that have made our lives easier. The way that software allows me to work on the Internet has totally changed my life. I communicate personally, professionally, and educationally through the Internet. I also shop for food, clothing and technology on the Internet. One of the best things is that I can find what would be otherwise obscure and difficult to find items very quickly and easily on the WWW. I can buy exotic spices for Indian food without having to order a special catalogue or drive a great distance to a specialty store. I book rental cars on the Internet, and research vacations on the Internet. Finally, I do lots and lots of research on the Internet. The availability of information is fantastic! I don't think that the developers of the technology accurately foresaw the effects that their developments would have on society (in fact, I believe that their lack of foresight has been documented to a certain extent). I think that this has been the case for many developments throughout history. There has been some accurate guessing, however. Moore's Law, which states that the power of computer

hardware will double each year, has held steady for about 24 years. The ways in which this affects our society, however would have been nearly impossible to envision.

- = > Carmen : One of the best things is that I can find what would be otherwise obscure and difficult to find items very quickly and easily on the WWW. I can buy exotic spices for Indian food without having to order a special catalogue or drive a great distance to a specialty store. I book rental cars on the Internet, and research vacations on the Internet. Finally, I do lots and lots of research on the Internet. The availability of information is fantastic! Very, very true...for someone like yours truly, who absolutely hates crowds and malls, online shopping is a dream and as Bernie said, finding normally hard to find items is a breeze...
- > Brook: How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life? I think the biggest technology that has changed my life has been my cell phone, and I honestly don't know how I lived my life without one for so long. Not only can I call anyone I want, regardless of where I may be, but I can get up to date information on practically anything I want. If I'm bored one night and decide to go to the movies, I can look up show times on my phone. If I want to know the weather of someplace I may be driving to, I can look that up to. Probably the biggest way my phone has changed my life is that its so great if I get lost driving somewhere. I can either call someone up to help me find my way, or go to mapquest.com and get detailed instructions. The Internet is probably the second biggest thing that has changed my life. It allows me to remain in contact with friends and family through e-mail and instant messenger. I can also pretty much find any item I would like to purchase over it, and get information on any subject I like. The Internet is great because it can be used in so many ways...I can pay my bills online, talk to people that are far away, look up information for school or just play a game. It's great.
- = > Carey: I agree with Brook. Both cell phones and Internet have great importance in my life, and I honestly could not imagine living without them. I would have to say that for me, the Internet has probably had a larger impact. What is easy to forget is that the Internet is used for so many things that we don't see. Even when we aren't sitting at a computer in a web browser, the Internet has great impacts on our lives. It has allowed for networking across the globe without the cost of a private line. ATM's, credit card machines, faxes, printing, banking, voice over IP... just a few things which can now be accomplished with the internet, which at one time was done through more expensive and inefficient methods. My cell phone is great, but I've been noticing that lately it's been becoming more of a timepiece than a communication device. Perhaps that's just because it's outdated equipment (I can't wait to get my new color-screen, Java enabled, WAP polyphonic ringtone yadayadayada phone soon!), but maybe it's also because I generally don't talk on the phone much. AIM has become such a prominent form of communication for college students that I swear, many have forgotten that the phone exists. I've experienced several times where people say "well, you weren't online" as an excuse for not telling somebody something, or not inviting them to come to a party, go out to eat, etc. Has it become too much work to pick up a phone and dial it? It's like if the person is not logged in, or has an away message up, they are temporarily non-existent and cannot be contacted in any way shape or form. I notice this mindset getting stronger and stronger, and personally it is beginning to scare me. Why are we placing less and less value on hearing a person's voice and seeing their face? Is it simply more convenient to be able to talk to a bunch of people at once, while doing your own thing on the web, playing minesweeper, or who knows what? Certainly the developers of the internet did not have this in mind. In actuality, they were more worried about building a superior defense network than even considering the possibility that their development could change society forever.
- = > Bernie: I've experienced several times where people say "well, you weren't online" as an excuse for not telling somebody something, or not inviting them to come to a party, go out to eat, etc. Has it become too much work to pick up a phone and dial it? It's like if the person is not logged in, or has an away message up, they are temporarily non-existent and cannot be contacted in any way shape or form. I notice this mindset getting stronger and stronger, and personally it is beginning to scare me. Why are we placing less and less value on hearing a person's voice and seeing their face? Is it simply more convenient to be able to talk to a bunch of people at once, while doing your own thing on the web, playing minesweeper, or who knows what? Certainly the developers of the internet did not have this in mind. Wow! I haven't seen anything like this, although I am a non-traditional student. I am a distance-learner, though, and I've never had anyone use the excuse that "I wasn't on-line." This is something of a disturbing trend. I do use the Internet to email friends that I would otherwise call, and in some sense, it offers a certain economy of communication. I would never, however, use it as an excuse NOT to get in touch with someone! Bernie
- > Loren: In what ways does technology influence modern culture? Technology influences everything and everybody in modern culture. I don't see technology as just the toys and appliances but also as entertainment, mass

production, cheaper production, communications, information, marketing and a host of other consequences related to technology.

- > Loren: How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life? All of the above technologies impact my job and my career development. I am the Director of System Engineering, so having a mobile phone allows me to stay in touch with the office and operations all the time. Video on demand allows me to have video conferences with our other sites and with Vendors, eliminating some travel from my schedule. The software defining the Internet allows me to attend RIT. Additional benefits from the software defining the Internet include consumerism, research and discovery, and knowledge transfer.
- > Loren: Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society? I believe some did and some didn't. I believe the benefits realized by most technologies and implementation wasn't foreseen. It took the innovators to apply the technologies for the rest of the world to see it's power. I believe this is still true today.
- > Kim: In what ways does technology influence modern culture? In the very broad sense or scope, I would say in just about every way. I absolutely can't imagine going back to the days of not having voicemail, email, teleconferencing abilities etc. It seems that we can get so much more done that we did previously. Having said that, this technology has also place a demand to get more time in a shorter amount of time, thereby increasing the demand and workload.
- = > Carmen : I would say in just about every way. I absolutely can't imagine going back to the days of not having voicemail, email, teleconferencing abilities etc. It seems that we can get so much more done that we did previously. Having said that, this technology has also place a demand to get more time in a shorter amount of time, thereby increasing the demand and workload. I too could not imagine going back to those days...and as technology has allowed for it, we as users of it, have learned to multitask as well. I'm not so sure that more things get done that way, but it sure feels like we get more accomplished...
- = = > Brook: I think the ability of how well you are able to multi-task by using technology depends entirely on the individual using it and the circumstance. I know people who can have the radio on, be on AIM, and do their homework with no problems, by not really being distracted by the mediums. On the other hand, although I can have various things going on while I do my homework and still get it accomplished, when faced with the choice of either chatting or working on a problem, I choose to chat. Technology in my opinion, is a double edged sword. Although some of it can help you be more efficient, like Palms, they can also be the biggest distractions in the world.
- = = = > Carmen : Well put Brook ... I'm one of those who usually have multiple things going, but I do have to be wary of outside distractions if I'm trying to get any comprehensive reading done. Otherwise, I'm sunk...:-)

The Technician's Role

What responsibilities (if any) do the developers of technology have for technology's influence on modern culture? Should software and hardware developers consider the effect of their work, or are those who develop technology simply neutral players?

- > Loren: What responsibilities (if any) do the developers of technology have for technology's influence on modern culture? I don't believe that the developers of technology have any responsibilities for the influence of their development. The technology has a life cycle that is initiated by the developer but is carried on by innovators. Should software and hardware developers consider the effect of their work, or are those who develop technology simply neutral players? By default the developers are neutral players because they cannot realize the extent of their development.
- = > Carey: I may have to disagree with you here. Developers DO carry some responsibility for technology's influence on modern culture. Yes, innovators also take a lot of responsibility, but shouldn't those who create and come up with the technology be responsible? Those who developed cell phones knew exactly what they were doing, and had an idea in their mind about how great it would be for people of modern culture to be able to have a conversation with somebody far away, no matter where either people were. They were responsible for the ease of use, and a slight development flaw years ago could have made cell phones terrible to use today (if non-existent). Suppose the developers decided that the cell phones would be used in cars only, and therefore do not need to be battery operated, nor do they have to have an antenna attached, they could just use the car's radio antenna. And, why not make it so that the user has to enter their home phone number, so the charges could be applied to their home phone bill? Sound good? Didn't think so. If the developers don't put the thought into the

products, or decide to be innovative themselves, then technology would probably not advance very well, and the influence would not be a good one. The Microsoft developers who came up with the concept of the start menu and taskbar have led to a whole new OS UI approach that has been remodeled in several OS's (In linux , KDE, Gnome, IceWM), and even Mac OSX uses the concept of having all of your open applications available at the bottom of the screen. Who is responsible for this? It is definitely not the CEO's of Microsoft. To say that developers take have no responsibility means that they can write sloppy code, come up with lousy CAD designs, and not put any extra effort into making their new idea something that will be useful to society. The developers DO have a concept of what their product will be used for, or else they would not be making it. Sure, they may not know the extent of how their work will affect others, but that is inevitable. It could in fact be immoral to not consider the extent of one's work. What if your project is going to be used to kill thousands of test subjects in South Dakota to see the effects of radiation poisoning? What if your software controls the automated subway system in the Atlanta Airport? Would it be acceptable to allow a bug which could cause a physical crash, injuring hundreds? It IS up to the developer to think about these things. The CEO's and innovators cannot look at the code or interpret CAD designs to know if these things are safe, or going to work. Being a blind puppet is no way to develop technology for our future.

- = = > Cory: Carey's right. If the developers of technology had no influence on modern culture, everything would go to hell. It's developers vested interest in their products which help lead the way in influencing culture. In regards to whether developers should consider the effect of their work is a very difficult question. The atom bomb was used to virtually wipe out two cities in Japan and has continued to have both positive and negative effects on culture. The development of the bomb saved millions of lives by preventing a full scale invasion into Japan, but if the scientist developing it knew how much destruction that were about to cause, would they have done it? I don't think they would have. Sometimes it's truly better to be neutral in instances such as this. "In November 1954, five months before his death, Einstein summarized his feelings about his role in the creation of the atomic bomb: "I made one great mistake in my life... when I signed the letter to President Roosevelt recommending that atom bombs be made; but there was some justification - the danger that the Germans would make them.""
- = = > Bernie: Carey, I agree with your points regarding the responsibility of the developers. Although there are often outcomes with technology that are not predictable, when they become evident, it is the responsibility of the developer to fix it (a reason why Microsoft is constantly producing patches for their software). Bernie
- = = > Loren: Developers develop products that fit a need. The consumers determine the requirements and vote with their buying power. The developer cannot determine their success just by a great development effort. If no one purchases the results, the product will die. The point of Microsoft issue patches is in response to consumer demand for quality products and the success of innovators to circumvent Microsoft's development process. If the innovators didn't crack the code, Microsoft wouldn't be fixing it.
- = = = > Carey: It is true that developers develop to fit a need, but in many cases they develop something that they think will fit somebody's need, not really knowing who will purchase their product, if anybody. Thus, they put much thought into how to make this product the best it can be, well before consumers are ever asked what they want, and before the product is put on the market so it can be 'voted' for. I could make, say, a consumer device which would allow two people to transfer an amount of money from one credit/debit card to another, totally eliminating the need for cash. Everybody could have one of these devices. Great, seems like a good idea, no? It would make money transfer convenient, and would eliminate all of that pesky paper and metal money we have to carry around. Not to mention, all transfer records could be downloaded to a computer, so you can see where your money has been going. How about making it compatible with Quicken and MS Money? Oh, and now all of your expenditures can be automatically tracked for taxes. The device can be small enough to be carried in a wallet, and...let's see...it can transfer data over wireless communication, so no wires or downloading/uploading is necessary. Oh, and it should be secure, of course, so that no money can be illegitimately created or transferred without each party's consent. So there is my device. Think of all of the possibilities it could lead to! Society would be changed forever...I can see it now. No more cash, secure transfers, stealing money would be a thing of the past, as well as muggings (for cash, at least). In fact, maybe this would lead to a total re-invention of our monetary system... who knows. See, I just developed a product (or at least came up with some basic requirements) without ever putting it on the market, or polling consumers. I stated exactly how this could change society, and if I do produce and develop such a product, then guess who is responsible for the change? I very well saw, before I ever even sat down to the drawing board what this could do to society. What if I left out the security requirement? Could you imagine what that would do to society? There would be a wonderful world of black-markets, stealing, fraud, privacy issues, and who knows what. Sure, consumers could say " we don't want that, it's not secure". But, what if they don't know it's not secure? It's like the DVD encryption issue. Yeah,

they made it "secure" and copyright protected alright, with...what was it, like 4-bit encryption that can be hacked in less than an hour? Great job. So, the DVD prospered, then...uh oh...these things aren't very secure after all, but, now we're stuck with them and have all kinds of wonderful movie pirating and bootlegging available on the internet today. Sure would have saved a lot of court costs, and fraud if the developers had put a little more thought into their product before releasing it.

= = = = > Loren: You bring up some interesting points Carey. I believe a majority of development is the result of corporate investment or ownership. There is some independent development in the market place that does get adopted by the main stream population but, this is rare. Your example of a money transfer device is a good idea but, like you said it has some downside. Many people won't adopt it just because of the security reason you stated. What is missing from this process is the role that corporations play in the marketing of ideals and products. A consumer would never see the device if a retailer didn't market it. There are non-traditional channels available but, the chance of success through those channels is minimal. If you bypass the consumer acceptance, there is a good chance you won't get the product right the first time, the second time or you will run out of money before you get the chance to do it right. This new device would require a standard communication protocol that the financial industry will adopt. Let's say you develop that standard and get 10 institutions to accept it, but only .0003 % of the US population ever use those institutions and their average transactions are under \$10. With some consumer polling you could start to identify who the players in the industry are and why there are the players. Now let's say you did get the device built right the first time and you develop standards that were adopted by most major financial institutions and they want to buy 500, 000 devices to get you going and to replace the monetary system. How will you produce them? You'll need to contract with one or more manufacturers who will want to negotiate with you on price, material, shipping etc... You are not a corporation so you will need a lawyer, a bank to get funding, accountants to manage the financials, etc... This is getting complicated so Microsoft steps in and offers you \$10,000,000 for the rights to your device. Wait you forgot to get it patented, so they take it like they did DOS. Let's say Bill Gates feels bad for you and said, we'll give you the \$10,000,000 and they purchase the rights. They embed it in Windows and it is now theirs. It no longer owned by the developer, it is owned by corporate America. So even when you do develop a great product or idea, you might not own it for long. Maybe the developers of the DVD were not responsible for the end product. Maybe the technology was released well before the developers wanted it released. Maybe the technology was purchased and needed to be released to market immediately to pay for it. As you can see, I don't agree that the developers retain total responsibility for products released to market. Many times, the developers do not have a say on the release.

= = > Loren: Carey - those who developed cell phones did not have a vision to deliver a pocket sized communication device when it was created 30 years ago. The goal was to permit wireless communication. Distance was not a goal of the creator, it was more driven by competition than technology vision. The original phones weighed over three pounds. It would be the like saying the television was created to allow us to watch football games on a six inch screen while we are sitting at a soccer game. Technology allowed portability for both devices, but the present day configurations were never dreamed of by the inventor.

= = = > Carey: "the present day configurations were never dreamed of by the inventor" is an awfully strong assumption. Who's to say that such things weren't dreamed of by the inventor? Hey, Dick Tracey had a watch phone, and you can actually buy those now. Sure, back then, it was not even conceivably possible to make such a device given the technology of the time, but people had the concepts already in their minds. When the Wright brothers developed the airplane, maybe they didn't have the ideas of supersonic jet fighters, massive cargo planes, or even private jets. But they did think "It would be great to fly"...and certainly they thought "it would be great if anybody could fly"... and even more so "if they could fly fast". And if they could just get the technology started, make the initial breakthrough, then their dreams could possibly one day come true.

= = = > Loren: "The present day configurations were never dreamed of by the inventor" is not an assumption, it is reflection of the inventor. Martin Cooper placed the first cell phone call in 1973 and it took 10 additional years to take it to market. Even with the backing of large corporation and a great idea, it still took 10 years. His vision in 1973 didn't include a 3 oz cell phone....

= > Carmen : What responsibilities (if any) do the developers of technology have for technology's influence on modern culture? It's the end user who is ultimately responsible, regardless of the convenience or the technology. It's like the guns don't kill people methodology. It's far too easy in today's society to blame others and outside influences for our actions, when the reality of it is, it's always our own responsibility. Should software and hardware developers consider the effect of their work, or are those who develop technology simply neutral

players? Same deal, and therefore they are neural players. It's like blaming media (video games, movies, music, Marilyn Manson...) for "brainwashing" kids...give me a break...

- = > Brook: I agree with Carmen. I hate hearing about all these issues that people have with media, blaming it for things that people do. It seems that media has become a scapegoat for actions taken in today's society. Parents especially, seem to love blaming music and video games for acts of violence or disobedience taken by their children. I am aware that in today's society, both parents are usually full time workers and cannot be with their children 24/7, but they need to find a way to control what their kids watch or buy. The developers of technology and media don't, and in my opinion, shouldn't have to worry about what the message of a song or a video game or anything, may be, or how something will be used. If that was the way it should be, I wouldn't hesitate in saying that not many things would have ever been invented, because someone always has a problem with something.
- = = > Carmen : because someone always has a problem with something. Aint that the truth? Good points Cathrine and I too am very concerned about the ever growing "it's not my fault" society. Sorry, but if YOU did it, Own It! And pay the consequences for it. As a advocate against government mandated censorship I agree with you about the messages being sent and it is absolutely a child's guardians responsibility to censor what their child has access too, and for crying out loud talk to them and make sure they know it's "just a game"...or whatever... As you said, "find a way" as both parents working is no excuse...

The Consumer's Role

What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture? Should consumers consider the effects of their use of technology, or are they simply neural players?

- > Loren: What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture? The consumer votes for the success and failure of technology by their use of it or by purchasing it. The consumer ultimately decides technology's fate. Should consumers consider the effects of their use of technology, or are they simply neural players? Consumer should consider the effects of their consumption of technology. If the technology is illegal, the consumer should consume. Napster is a good example of a great technology deployed for the wrong reasons.
- = > Carey: I agree. We, as consumers, have the ability to say what we accept and do not simply through purchasing power, with, of course, the minor exception of things like food and energy which we are dependent on to survive. And by "If the technology is illegal, the consumer should consume." I am assuming that you meant to say something along the lines of "should not consume". If that is the case, I agree with you, but to a point. Yes, consumers should consider the effects of the use of technology, but should not necessarily not consume SIMPLY because it is illegal. In the case of Napster, consumers know very well the effects that their usage of sharing music has on the record industry. Perhaps they are sending a message to the record industry : "your prices are too high, and the marginal benefit we get from your music does not equal the marginal cost of \$14 for a shiny cd and case which cost you \$0.30 to produce" and "the musicians hardly get any of your profits anyways, so why should I fork my money over to you greedy Ba****ds?" Just a thought. Plus, there is the argument about the zero-cost of replicating software and music. So, unlike bread, where if I take your bread, you have none, with digital media, if I copy your media, you still have it, I still have it, everybody's happy (except for the producer of the media, of course). Ok, I did not mean to turn this into a Filesharing debate, so I hope it doesn't turn into a flame war about that. But my point is, consumers DO have the choice to do illegal activities and have the choice to "steal" copyrighted software. Is it wrong? Probably. Should they deeply consider what they are doing using the technology? Definitely. But, what if they come to the wrong conclusion? What if they decide to never purchase a CD, DVD, or piece of software? Well, then, the consumer is responsible when the band breaks up because they aren't making enough money, when movies become unwatchable because they cannot afford good CGI or editing, or when software companies go out of business (no more Adobe Photoshop or MSFT Office, or Maple or Mathematica). Purchasing is a powerful thing, and many times we take it for granted.
- = = > Loren: Well put Carey. I did mean to say - should not consume illegally obtained goods or services. Napster seemed innocent enough until you think, would it be cool if someone copied what I did and didn't acknowledge me? Acknowledgement in this case is monetary but in the same vein of my original point. If we allow copyright infringement based on the popularity of the industry (record companies), where do we draw the line? If we don't like paying high prices we vote buy not buying. I know the record companies have been in legal battles not only

over copy right infringement but also their own misdeeds of monopolist pricing. It will come out in the end, you can only cheat for so long before the world turns on you...

- > Cory: Consumer of Technology create the demand for new technologies. TiVo would have never been made if some guy hadn't been trying to program his VCR to record a football game while he went to the bathroom, and thought "Wow, I wish I could just pause it". Just with video games. We would have never moved beyond pong had consumers not wanted more. I don't believe the consumer needs to really consider the effects of their technology usage. It's not really any benefit to them at all.
- > Carmen : What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture? Without the consumers acceptance, the technology can't survive. It must be attractive and affordable enough for people to welcome and use it. Should consumers consider the effects of their use of technology, or are they simply neural players? Most definitely, the consumer is always responsible for their actions. If some idiot gets in an accident 'cause they were chatting on the cell whilst driving and weren't paying attention...it's not the technology's fault.

Discussion Group III (with micro-feedback)

Exploring Technology and Society

In what ways does technology influence modern culture?

How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life?

Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society?

- > Kelly: Mobile phones have made it possible for me to feel secure when I'm driving long distances alone. They have made it possible for me to return phone calls during my breaks between work and class. It allows me to pick-up my messages at home and keep on top of my everyday responsibilities. Pay-Per-View makes it much easier for me to keep on top of the current movies and be able to stay at home in my pj's if I want. It also costs much less than if I were to take my boys to a theatre and buy popcorn, candy and drinks.
- = > Dana: I agree with the feeling of security while having a cellphone readily available when traveling alone. I would like to add the comfort it gives me when walking across campus after a night class... in the dark... alone... do you get my drift? I have the phone out with my finger on speed dial... just in case. Nowadays you really can't trust strangers (or so it seems). Another piece of modern technology that makes life easier is the good old computer along with the internet, etc.
- = > Kelly: What's so great about modern technology is the fact that it provides more than just communication, but it also allows one the ability to call for help if we need it, just like Dana mentions. I recently found out, that if my cell phone runs out of minutes, I can still use the phone, but only to call 911. I thought that was great. I found that to be a step beyond what is usually provided with a telephone service. I mean when you think about it, if our telephone service at home is cut off, we're not able to call 911. So on one hand, the cellular phone companies (or at least mine) feels responsible enough to society to want their safety, regardless of whether the customer has paid their bill or not, and the telephone companies that have provided for residential customers have not. What's the difference here? Somebody help me out.
- = = > Sal: I'm not sure what it is like where you live but I know around my area (Buffalo) if your phone is disconnected you still have 911 availability. However, If it is out because of failure, obviously, you wouldn't have that feature. But I do agree with you that technology, cell phones in particular, increases our safety. Even the internet, to some degree, can offer us increased safety at our fingertips. You can look up reviews of products before you buy them, you can look for product recalls, and you can purchase safety equipment, all online.
- = = = > Sam: I think of cell phones and services such as pay per view and the Internet as a great convenience and a real time saver but certainly not a necessity. Having a cell phone definitely provides people with a sense of security, but I'm sure that a very small percentage of people have ever actually used their cell phone in an emergency situation. I have had a cell phone for about 5 years and I don't think it has dramatically changed anything in my life. Also, I believe that all cell phone carriers are legally required to provide 911 service so I don't think they do it out of their kindness.

- == => Sal: I have never personally had a cell phone and seem to be functioning ok. I have never been in an emergency situation where I would have needed one, but there are a few times a wished I had one for convenience sake. My husband has one, required by his employee, and he has used his to report accidents a few times. One time about 5 am (we were going to the gym) we followed a suspicious car throughout the neighborhood. He kept ditching down side roads and turning off his lights. My husband had the police on his cell phone letting them know where this guy was heading next. They caught up with him and he was arrested (not sure what he was charged with). Of course that was really stupid and if we didn't have the false sense of security of the cell phone, we wouldn't have been chasing a lunatic through the streets.
- > Kim: How have technologies such as mobile phones, video on demand and the software defining what can be done over the internet changed your life. Mobile phones have allowed me to conduct business while I'm out of the office, between appointments and otherwise would have "downtime". In essence it's made me more productive. I have access to family members and others that I need to be able to get in touch with at any time. The internet has allowed me to take classes that I would otherwise find difficult to do from a time management perspective. I can shop, conduct research and stay in touch with people that I would otherwise not have time to call.
- => Sal: Kim, I agree with you about the internet giving us the opportunity to take classes that otherwise wouldn't be possible. I would never be able to fit work school and family in without the internet. With modern technology I can do research without ever having to step foot into the library- databases, journals, and even library loans are all available online. One thing about technology is that it speeds up the pace of an already fast paced society. You either have to jump on the technology train or get out of the way. At one time it was thought that the technology would allow for the work week would drop to about half. Not at all- it has allowed us to work longer. Cell phones, laptops, and wireless systems have allowed us to be contact anywhere anytime.
- ==> Kim: Sal, So, true! The only drawback that I see is that we have very little time to time to "take off". I can't remember the last vacation or day off that I had where I didn't at least check emails and voicemails. The expectation that people will respond quickly has changed as well. If you don't respond to someone's message (email or voicemail) almost instantaneously, it's as if you have not been responsive. In some respects, I'm guilty of expecting the same from people I contact.
- == => Dana: This is so true. I don't think there is really such a thing as an uninterrupted vacation nowadays. I also find myself checking my voice and ee-mail in addition to constantly having my cellphone on. During the ice storm, our office and my home was without power for several days. It was amazing to realize how dependent on modern technology that I have become.
- == => Kelly: I can completely relate to you Dana, I feel the same way. Although I'm communicating more with the people that I care about, I'm doing it in way that may still leave a lot to be desired, but it's the next best thing for those like me, who are very busy. I also check my email and phone messages throughout the day. I've also noticed that since I bought my new computer I'm turning into an Internet junkie. I see that as one of the drawbacks.
- == => Sam: I think you have a good point Kelly. Technology makes it much easier to stay in touch with people, but the quality of these interactions (i.e. email, voicemail) can be much lower than real personal interaction.

The Technician's Role

What responsibilities (if any) do the developers of technology have for technology's influence on modern culture? Should software and hardware developers consider the effect of their work, or are those who develop technology simply neutral players?

- > Sam: My opinion is that developers of technology have little responsibility for technology's influence on modern culture as long as they are in compliance with all legal and privacy regulations and they act in a socially responsible manner. For example, if a developer creates a new technology that allows on demand video to reach millions of people it is not their responsibility to determine the impact that this will have on our culture. Software and hardware developers should consider the effect of their work but they are really neutral players. For example, I doubt that anyone believes that violent video games have a positive effect on our society, but if a demand exists then it is up to parents and responsible adults to make sure that they are not used inappropriately. On the other hand developers and technologists should be responsible for making sure that technology can be applied to prevent the inappropriate use of technology (i.e. parental control software) where a demand exists for this type of software.

- = > Kelly: I agree with Sams' comments regarding the role of the developers of new technology. Their role is to do just that develop new technology, not to enforce any rules or morals on anyone, that is entirely another topic.
- > Sal: It is impossible to know how the technology will be used, so it would be impossible for the developer to know what influence it will have on modern culture. Sometime a technology is developed for one thing and used for another. When the internet was developed, who would have thought that it would reach the homes of virtually every American. That wasn't the original intent. How ridiculous it would have sounded if when it was being developed, someone said, "Maybe we shouldn't do this; we have a responsibility to keep porn away from kids" Surely he would have been laughed at because no one would have seen the relationship between two institutional computers communicating and children being exposed to porn.
- > Kelly: I think that all that the technician can do, he already does. I'm referring to the inner controls that he must place within the various computer programs that he develops. He does this to secure valuable information from getting to the wrong people, or people who have no business or need to know - people like computer hackers.
- = > Dana: I agree with you. I think the technician's role is limited to inner workings of his/hers programs that they develop. An administrator should be responsible for the larger realm of program. Such as who uses it, how does it get distributed, etc. The technician should be concerned with making it work. (But this is only my opinion and I may be way off base here... just wanted to share my thoughts.)
- > Sal: Technology is such a broad subject, I was trying to think if there was any moral or legal obligation that technicians or those creating/improving technology may have. I work in a research and development setting for the medical device industry. Technology in this industry has changed and will continue to change as demand for smaller and smaller pacemakers and defibrillators are needed. We have a responsibility to be certain that our data is accurate. There are often heated discussion about whether or not a certain set of data was interpreted correctly. I know that we are discussing technology more in a consumer setting, but I think that there is a certain amount of similarity. A consumer wants to make sure that their hardware/software does what it is supposed to and only what it is supposed to do. What about people who use technology to create virus's and other things that are harmful. Whose responsibility is it to stop them?
- = > Sam: I believe that all people do have a responsibility to obey laws and act socially responsible so I guess technologists have the same responsibility as everyone else. For example, creating and intentionally transmitting a virus to someone is illegal but creating a virus and posting it on web site for someone else to use is not illegal but it is socially irresponsible.

The Consumer's Role

What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture? Should consumers consider the effects of their use of technology, or are they simply neutral players?

- > Sam: Consumers of technology do have a responsibility for technology's influence on modern culture. As an example, broadcasters have a responsibility to use technology in an appropriate and objective manner to reports on news stories. As another example, it is up to the users of cell phones to determine proper etiquette when using them not the manufacturers.
- = > Dana: I agree with your comment about the cellphone etiquette being the responsibility of the users. However in some cases we see higher ups determining what is the right way to use the phones... for instance, in NYS it is against the law to talk on your cellphone unless you are using a hands-free device.
- > Kim: I definitely think that consumers should and do play an active role regarding technology.. how it's used, when, by whom. The problem that I see is that the technology age has taken off far faster than I would think most imagined. At this point, it's a part of our culture and way of life. Again, I'm a fan of the technology, but we do need to recognize that there are some drawbacks to the more simpler ways (pre technology). I suppose the role we take as consumers, is determining what works and in what type of moderation to fit our particular lifestyle. -Kim
- > Kelly: As far as the users of technology of consumers go, yes they do have a tremendous responsibility to be ethical and accurate in their forwarding of information, as far as journalists and people in that realm of work go. Things have changed so much in radio and television, that I am sometimes still taken back when I hear certain language spoken in the middle of the day or early morning. It seems that times have changed and people don't make a fuss over them anymore and hence, it becomes acceptable. I suppose that I as a consumer could choose to see that as my use of technology, because I'm listening to it, whatever form of media it is, and I answer the question of whether I am being a neutral player as well here when I do nothing about it.

- = > Sam: I think that consumers ultimately control how technologies are used. All of the information that we see on TV, radio or the Internet is ultimately controlled by the consumers of the information. As an example, if everyone thought that Howard Stern was offensive then he would not have any listeners and his show would not be on the radio.
- > Sal: It is the consumer who has the greatest responsibility. We have a responsibility to be informed about a product and need to be responsible in its use. We need to be aware of when we are being marketed to also. Let's face it, marketers don't care about your children, they are concerned with the bottom line. So they have no problem marketing inappropriate material(Movies, CD, Video Games) to children. Parents have to be aware that just because the marketers make it appear that every kid but yours has the latest, that it probably isn't true. And if your gut tells you it's inappropriate, then you should just say no.
- = > Kim: It really does put the responsibility back on the consumer, doesn't it? I would say appropriately so. There are many things that are put in front of us as consumers (much more far reachings than just the topics covered in this discussion). Just because they are available, does not mean that we have to be participants or accept what is before us. We have to select according to what best suits our needs. -Kim
- = > Kelly: I agree, the consumer is ultimately responsible for the different uses of technology in their possession. The seller of the product wants to sell it and make a profit, he doesn't care who he sells it to, his goal is to make money. He does this by using whatever skills he possesses. But most consumers aren't aware of them. It's up to the consumer to be aware and start to identify the ways in which they are being persuaded to purchase something.

Discussion Group IV (without micro-feedback)

Exploring Technology and Society

In what ways does technology influence modern culture?

How have technologies such as mobile phones, video on demand, and the software defining what can be done over the Internet, changed your life?

Do you think the developers of the technology accurately foresaw the effects their developments would have on modern society?

- > Nat: Technology has numerous effects on the modern culture actually it is obvious that the new culture is being controlled by technology, and it changed my life socially coz now i contact more people wherever i am, i think that the developers had some idea of what it will have of an effect on cultures but i don't think they knew that it can control everything in human's life.
- = > Casey: I agree that there is an increased level of socialization because of the technology that we have available to us today. All we have to do is pick up a phone, check our e-mail, or be connected to Instant Messenger. It certainly takes more time to find paper, write a letter, get an envelop, a stamp and then wait three days until the person actually gets your letter. But, there is something about a personalized hand written letter that I don't think will ever go out of style. It shows that someone has really taken the time to think about you. Using the phone, or reading e-mail, is so commonplace that an actual letter is becoming a thing of the past.
- = > Jessie: I think these types of new technologies are in place to make our lives "easier" and more globalized. I think that it is part of evolution...our country is the most industrially, powerful and "socially" evolved country and other "developing" countries are evolving to meet out communications advances. I think there are a lot of cons to this kind of "convenience" technology and that a lot of countries would rather rely on traditional forms of communication.
- = > Pat: Casey, I agree with you about a hand written letter. But I can't see me ever writing a letter by hand again.
Pat
- = > Pat: Nat, I'm not sure I would agree that technology is controlling everything in human life. It does impact our lives but I think we still have control over how we use technology. My example would be just because I have a cell phone, fax machine, computer, ect, does not mean I will use them or how much I will use them. I still am in control, it is my decision. I wonder sometimes if technology will get to a point where it is controlling people's behaviors but I don't think we are there yet. Pat
- = > Pat: Jessie, Could you give an example of a "con" you mentioned ? Pat

- > Casey: I really wonder what life was like before cell phones, before the internet, before the television, or the radio. I think people spent more time talking to each other and working together as family units. People were more physically active and spent time outdoors or developing their minds. Technology has "helped" us seclude ourselves from one another. It has "helped" us become less physically active and more dependent on mindless activities. Do the benefits of technology really outweigh the costs?
- = > Jay: I believe that as cell phones and communication through the internet was being developed there was a need for a way for us to talk to each other, especially family in alternative method. As families have moved further away from each other, globalized, if you will, it has become more and more important for us to have alternatives for costly telephones. I do, however, agree that this has made us more secluded. I also don't think that the developers could have imagined the impact.
- = > Nat: That's so interesting Casey yeah i really wanna remember how life was like and how we used to contact before chatting and e-mails and stuff, that was horrible i guess :)
- = = > Jessie: I think that life before these types of communications is still present in developing countries..and i wouldn't want to live w/o my cell phone:)
- > Pat: I have to agree with all the other coments. The new and emerging technology has definitely been a part of my life. I don't think I would be going to college if it wasn't for this online technology. I would not have been able to fit in in my schedule and balance all my other needs. Technology has supplied me with opportunities by giving me flexibility to fit things in where I can. I believe as others, that technology has helped globalize the world. We now can participate in various groups,activities,movements, through technolgical interconnectiveness--real time. We are able to have an impact on other areas across the globe in ways we were not able to before. An example would be satellite surveillance of other countries activities, and the role technology played in the war with Iraq (for both sides). Technology gave us the winning edge. But on the same note technology gave the 9-11 terrorists the edge to complete such a terrible act. I do not believe the developers can imagine all the impacts of their technological advancements. People will use the technology in various ways. Pat
- = > Jay: I know what life was like before cellphones and also before computers were so much a part of our lives. I think that the more technology helps us to do more, it also allows or makes us try to fit more into each and every moment.
- = > Jessie: I definately agree with you!! I am all for any technology that makes things easier for me! :)
- = > Pat: I have to agree Jay. I wonder who or what we would be if we were not impacted by technology during our lives. I wonder what I would be doing if I had no access to all the technological advances ? Technology has helped me develop myself by exposing me to new views and experiences across the globe. Pat
- = > Pat: Jessie, Me too. Technology has many positive benefits. It also has some negative as well.... We are in the process of installing cameras in various locations at my place of employment. The reason is increased security. I can understand the reasoning, but the idea of having cameras placed around the company, kind of turns me off towards technology. You know what I mean ? It will feel like your being spied on at all times. Creepy ! Pat
- = = > Jessie: We talked in one of my ethics classes about how monitoring employees like that is border line unethical and in fact cuts down on employee effectiveness because they feel unsafe and violated at work.
- > Pat: Is anyone going to submittt their pictures as part of the discussion ? I see in the survey there are some questions referring to the impact of our pictures.
Pat
- > Leslie: I also was around before the cell phones, pagers, faxes, email, etc. Every time this topic comes up,I am reminded of my Dad's comments a few years ago when I was running my business and kept getting interrupted by my ringing cell phone. He would tell me about how he managed a shop of 500+ people while fabricating steel for the Sears Tower. He said they managed to build that amazing structure without a single cell phone or pager or fax machine or email. How could that be? I think the demands placed on individuals today along with the lack of privacy technology has allowed, is the downside of the wonderful gadgets and tools we use and can't do without today.
- = > Jessie: I don't think people would be able to handle building the sears tower today without their cell phones:)

The Technician's Role

What responsibilities (if any) do the developers of technology have for technology's influence on modern culture? Should software and hardware developers consider the effect of their work, or are those who develop technology simply neural players?

> Pat: I believe the developers have a major role to play in the decision on what technology to develop. However the decision may be influenced by others. They can be influenced by many things: money, job security, ect... An example would be the technology for cars to get good gas milage.. They say the technology was available many years ago, but no one developed it.

Pat

=> Jessie: Or look at how long it took for television or something as simple as the wheel or telephone to be instituted in society.

=> Leslie: While I would agree they have a major role in what gets developed, I would disagree that they have responsibility for its influence on modern culture. I believe we as a society have other mechanisms available to us to regulate or decide the role the new technology will play. I will say that the methods we do have to provide direction and control over its role are weak or too late sometimes, but I do not consider this a tech development issue to solve.

The Consumer's Role

What responsibilities (if any) do the users or consumers of technology have for its influence on modern culture? Should consumers consider the effects of their use of technology, or are they simply neural players?

> Jay: I believe that I as a consumer always have a responsibility when using technology. There are ethical and moral responsibilities that we all share in this world. We should also think of how the ways we do something is going to impact others today and in the future. I don't think that any of us should have to be told or have a law passed to make us responsible for proper use of things such as cell phones while driving in a car. Common sense tells us how to act and that this is our issue.

=> Jessie: I agree...especially for those people in school who are going to be in deloping the technology, or producing it, or selling it, etc

=> Pat: Jay, I agree also. We as consumers are responsible to use the technology in accordance with all laws and regulations. We as consumers always come up with some creative uses of tehchology in whihc the developer never invisioned. So sometimes the laws and regulations come after the fact. Look at the internet and all the creative (and some times not so positive uses); now we are in the process of trying to regulate it's use within the laws.

Pat

=> Jessie: Monitoring technology by doing things like sueing college students for sharing Mp3s:)

