# Human Computer Systems

Lecture Week 10 - 11

# HCI - Social Aspects

- Clifford Nass, associate professor of communications at Stanford and colleague Byron Reeves have conducted more than 40 scientific experiments that measure the physiological and psychological responses of computer users
- *The Media Equation: How People Treat Computers*

# Nass & Reeves

- Tested how users respond to educational software that speaks with male/female voices.
  - people consider "male" computers to be better teachers of technical subjects,
  - prefer "female" computers for more personal subjects.
  - Should software developers adhere to these stereotypes or rebel against them?

# Nass & Reeves

- Another experiment : a simple text-based terminal to see how people responded to commands worded in dominant/passive language.
- Users with dominant personalities disliked passive computers.
- Users with passive personalities disliked dominant computers.

# Nass & Reeves

- "The minute you put words on the screen, you've got a social interface.“
- "If it's got contingent behaviour, if it fills a social role, and if it uses language, people will perceive it as a person."

# 6 Tips for Better Interfaces

- **Error messages should have a consistent tone and style.** Many programs are inconsistent because different programmers wrote the error messages, often as an afterthought.
- "Although different people like different personalities, nobody likes a confused personality."

# Tips for Better Interfaces

- **Users should be able to customise their software.**
- "If I asked you to describe your ideal best friend, you'd probably have trouble but if I showed you 10 people and asked you to choose the one you like best, you'd find it much easier."

# 6 Tips for Better Interfaces

- **Avoid the overuse of modal alerts or similar distractions** (messages that float atop all other windows and must be dealt with immediately). "A modal alert is like yelling 'Fire!'"

# 6 Tips for Better Interfaces

- 4. **Context-sensitive help is much better than large** generic help files that give too much non specific information. If someone asked you for a phone number, would you recite the phone book?

# 6 Tips for Better Interfaces

- 5. **Toolbars are frustrating because users must remember** what all the obscure little icons mean.
- "They violate the principles of understandability and comprehension."
- Toolbars are acceptable if the user creates the shortcut button. The toolbar should remain hidden by default until the user is ready for it.

# 6 Tips for Better Interfaces

- **Practice random kindness and senseless acts of beauty.**
- Designed a spelling checker that not only flags spelling errors but also randomly praises the user for spelling difficult words correctly. The program generates positive responses that can be measured on brain scanners.

# Nass & Reeves Research

- "Faces on the Screen: Pictures or natural experience"
  - Physical distance between viewers and people shown on the screen was manipulated and related to viewer attention, memory, and evaluation. Three different distance manipulations, all varied within subjects, were used:
  - (1) size of screen (big = 41 inch picture height; small = 15 inch picture height);
  - (2) viewing distance (near = 4 ft; far = 10 ft); and
  - (3) shot type (close-up = full face; long = a seated person seen only above the lower legs).

# Nass & Reeves Research

- Four people were shown in random order to 32 subjects in each of the eight cells. The results showed that with few exceptions, faces on big screens, faces seen in the near seat, and faces shot close up were given more attention, resulted in better memory, and were evaluated both more positively and negatively than faces in the other conditions.

# Nass & Reeves : Is HCI Social or Parasocial?"

- Is HCI fundamentally social (as in human-human interaction) or parasocial (as in human-television interaction)? i.e social psychology.
- Parasocial is one-sided, "parasocial" interpersonal relationships in which one party knows a great deal about the other, but the other does not. The most common form of such relationships are one-sided relations between celebrities and audience or fans.
- subjects were told they were dealing with computers; or they were told they were interacting with programmers (in order to manipulate the feeling of mediated representation as in television).
- Results suggest that human-computer interaction is social rather than parasocial.

# Ben Shneiderman, Ten Plagues of the Information Age

- ANXIETY ("terminal terror", "network neurosis")
  - fear of using computer
  - resistance to change
  - loss of control
  - fear of being a beginner
- ALIENATION
  - machines vs. people
  - relating to computers rather than people
  - introversion, video game isolation
  - loneliness

# Ben Shneiderman, Ten Plagues of the Information Age

- INFORMATION-POOR MINORITY
  - one more way to be disadvantaged
  - lack of access by poorer people
  - disparity in training and education
  - inadequate job skills
- IMPOTENCE OF THE INDIVIDUAL
  - large organizations and government
  - difficulty in receiving personal treatment
  - grudging acceptance of social environment
- BEWILDERING COMPLEXITY AND SPEED
  - so much to learn
  - information overload
  - reactor disaster

# Ben Shneiderman, Ten Plagues of the Information Age

- ORGANIZATIONAL FRAGILITY
  - breakdowns in service
  - lengthy delays in adjusting to change
  - insufficent trained personnel
- LACK OF PROFESSIONAL RESPONSIBILITY
  - blame the machine
  - out-of-control robots
  - "expert systems"
- UNEMPLOYMENT AND DISPLACEMENT
  - some skills are no longer needed
  - inadequate retraining
  - inequitable distribution of benefits

# Ben Shneiderman, Ten Plagues of the Information Age

- INVASION OF PRIVACY
  - propogation of false information
  - misuse of information
  - extortion, coercion, and oppression
- DETERIORATING IMAGE OF PEOPLE
  - "smart machines", "intelligent terminals"
  - "artificial intelligence"
  - people are becoming robots
  - undermines feelings of self-worth