Issues in Multimedia Authoring Lecture 6: "When the Interface is a Face"

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Our Goals

- To appreciate the use of other sciences beyond “the usual” in direct computing contexts
- How to grasp some details from what might be an intimidating paper

Summary of paper "When the Interface Is a Face"

- Taken from a collection *Human Values and the Design of Computer Technology*
- Originally published in 1996
- A work in what might be called a psychotechnology
- Hypotheses suggested in title

Brief side-section: Psychotechnology

- Parallel: Physics and chemistry used in engineering
- Psychology used in other fields (here, Human-Computer Interaction)
- Science about what the world is like, technology about how to change world

Sections of the Paper (I)

- Introduction and prior work
- Specific background
- Hypotheses = questions the paper and experiments described hope to answer
- Overview: summary of how the hypotheses were investigated

Sections of Paper (II)

- Method: details - subjects, apparatus, procedure, measures
- Results: intro, check, social perception, arousal/attention, self-presentation, male/female differences
- Discussion
- Appendix

Sections of the paper (II): Introduction I

- Long tradition of humanizing interfaces
- Goal is to make them easier and more comfortable to use
- Examples given (e.g. speech and speech recognition)
- Not without problems

Sections of the paper (III): Introduction 2

- Face chosen because very human
- History of faces in interfaces given
- Historical note: Apple's Phil has never materialized
- Face with several possible roles
- Humanness doesn't always improve usefulness
- Ambivalence (see bottom of pp. 164)

Sections of the paper (IV): Theoretical Framework and Hypotheses

- C. Darwin: "How odd it is that anyone should not see that all observation must be for or against some view if it is to be of any service!"
- Paper cites psychological work on faces
- From this background, hypothesize H1-H4

Sections of the paper (V): Overview of the Study

- Again links to background, this time methodologically (interview survey)
- Rule out alternatives (stern vs. pleasant)
- Clear predictions in some areas hard (footnote)

Sections of the paper (VI): Methods I

- Subjects - who's reaction to interfaces?
- Subjects - "statistically (in)significant" - measure of plausibility of connection between two hypotheses
- Apparatus - preexisting hardware and software as basis
- Apparatus - notice all spelled out

Sections of the paper (VII): Methods 2

- Apparatus - Face model used knowledge of muscles
- Apparatus - ELIZA (http://www-ai.ijs.si/eliza/eliza.html)
- Procedure - Deception (experimenter tells subjects doing something they are not really doing)

Sections of the paper (VIII): Methods 3

- Procedure: See flow diagram pp. 170 - shows commonalities, differences between experimental, control
- Procedure: Note detail so that one can reproduce experiment or vary parameters
- Measures: postexperiment questionnaire
- Measures: existing instruments

Sections of the paper (IX): Results 1

- SAS - a statistical package
- ANOVA - analysis of variance (loosely: how much of X can be attributed to Y)
- We're not a statistics course, so details for your QM / Prob & Stats etc. courses
- Check interesting

Sections of the paper (IX): Results 2

- Various personality traits perceived
- Difference between face and text
- Contradiction of previous research - no different attributions of intelligence
- Summary chart of appearance (pp. 178): those with cell marked + important - ones with significant difference between face and text
- Note pleasant face negative social evaluation!

Sections of the paper (X): Results 3

- Attitude factor analysis (pp. 179)
- Notice: "People reported themselves to be less relaxed and assured in the face condition"
- Attentiveness/arousal also measured: more arousal in face condition
- Gender difference in positivity to face

Sections of the paper (X): Discussion

- Summarizes results
- Notices shortcomings (**why** do people treat face different?)
- Connects to further research (voice, rather than face? Female vs. male face)

Sections of the paper (XI): Appendix

- Details of the survey
- For later on if you take statistics, etc.

TTQs (I)

- What does the finding that men prefer the face to the text and women the converse say about traditional stereotypes about women and technology? Do you think that this result would have been different if the face had been masculine?
- Quality of speech synthesis and graphics has improved in the 10+ years since the study. Do you think this would make a difference if it were rerun today?

TTQs (II)

- People are also more familiar with computing these days. Do you think this would affect the results if the experiment were redone?
- Paper ends with an area for project ideas.