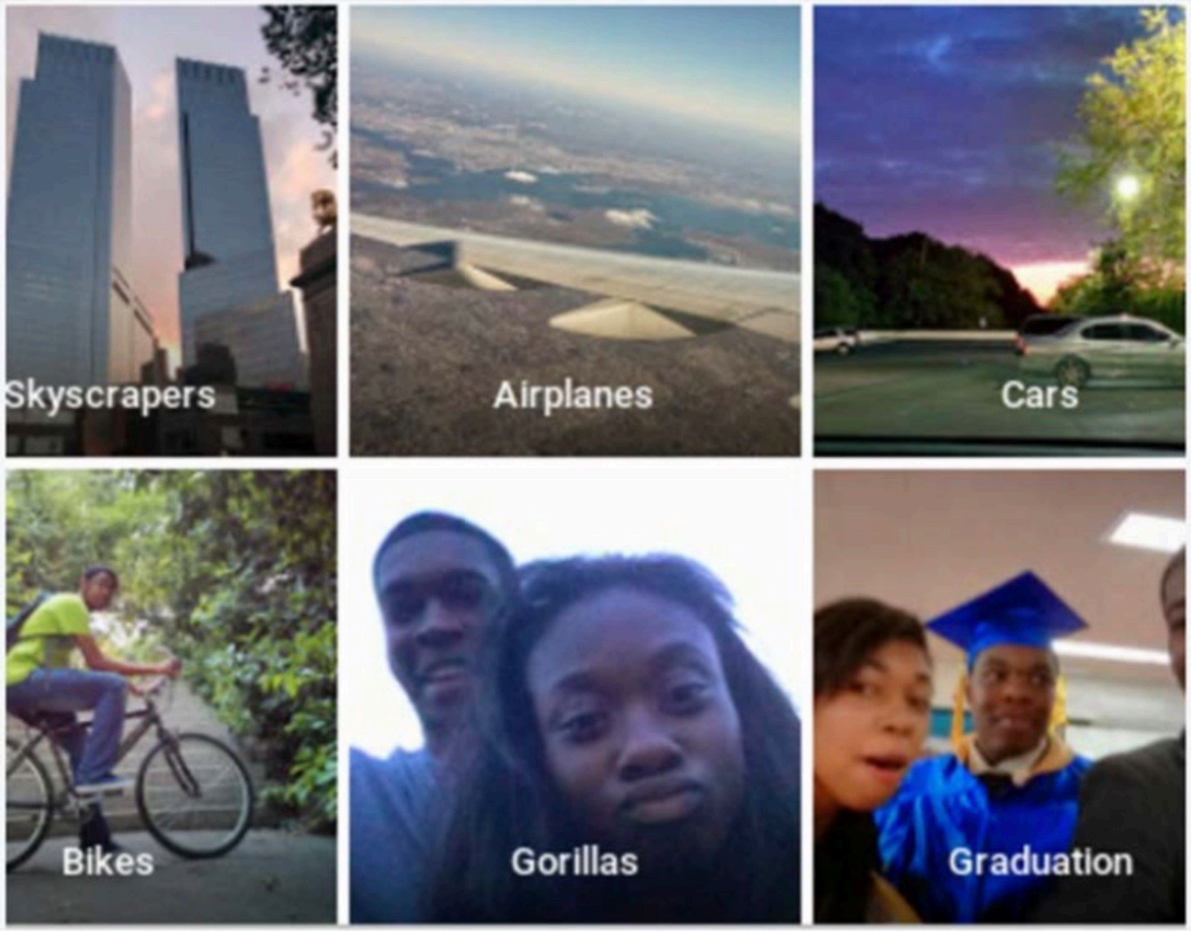
L8.3 Ethics in HCI

UNIVERSITY OF AUCKLAND

COMPSCI 705 / SOFTENG 702

Dr Danielle Lottridge

google assistant calls a restaurant



web@jalciné
@jackyalcine

Follow

Google Photos, y'all fucked up. My friend's not a gorilla.

1:22 PM - 29 Jun 2015

3,192 1,976

NZ Passport

Richard Lee was told his eyes were not open when submitting an image of himself to New Zealand's online passport photo checker. Photo / Richard Lee Facebook

“Value-Sensitive Design” by Friedman

User Autonomy

- Misrepresentation of the System: google assistant to restaurant
- System Capability: on/off switch
- System Fluidity: change over time
- System Complexity: able to control

Bias

- Preexisting Bias: a spelling game for 7th graders
- Technical Bias
- Emergent Bias

Outline

- Ethics for research with human participants
- Values and ethics in HCI

- Reading
  - Friedman, B. (1996) Value-sensitive design. interactions, 3(6), 16-23.

Ethics for research with human participants

The Nuremberg Code

- Nuremberg trials after WW2
- Experiments performed on concentration camp prisoners
- Concepts of
  - informed consent
  - right to withdraw
  - do no harm
  - risks must not outweigh benefits

image credit: http://broughttolife.sciencemuseum.org.uk/broughttolife/techniques/nurembergcode

The Tuskegee Syphilis Study 1932-1972

- 600 low-income, African American males
- 400 infected with Syphilis
- Participants given free medical examinations but never told
- Penicillin treatment became available but participants not given treatment
- Study discontinued after public outcry

The New York Times

Syphilis Victims in U.S. Study Went Untreated for 40 Years

By JEAN HELLER
The Associated Press

WASHINGTON, July 25—For 40 years the United States Public Health Service has conducted a study in which human beings with syphilis, who were

have serious doubts about the morality of the study, also say that it is too late to treat the syphilis in any surviving participants.

image credit: https://en.wikipedia.org/wiki/Tuskegee_syphilis_experiment https://www.usrf.org/uro-video/Tuskegee_2004/Tuskegee_Intro.html

The Belmont Report 1978/1979

- Respect for persons.

  Protect autonomy by enabling voluntary, informed consent

- Beneficence.

  "Do no harm." Protect welfare by minimizing risks. Benefits must merit risk

- Justice.

  Select participants for fair distribution of costs and benefits

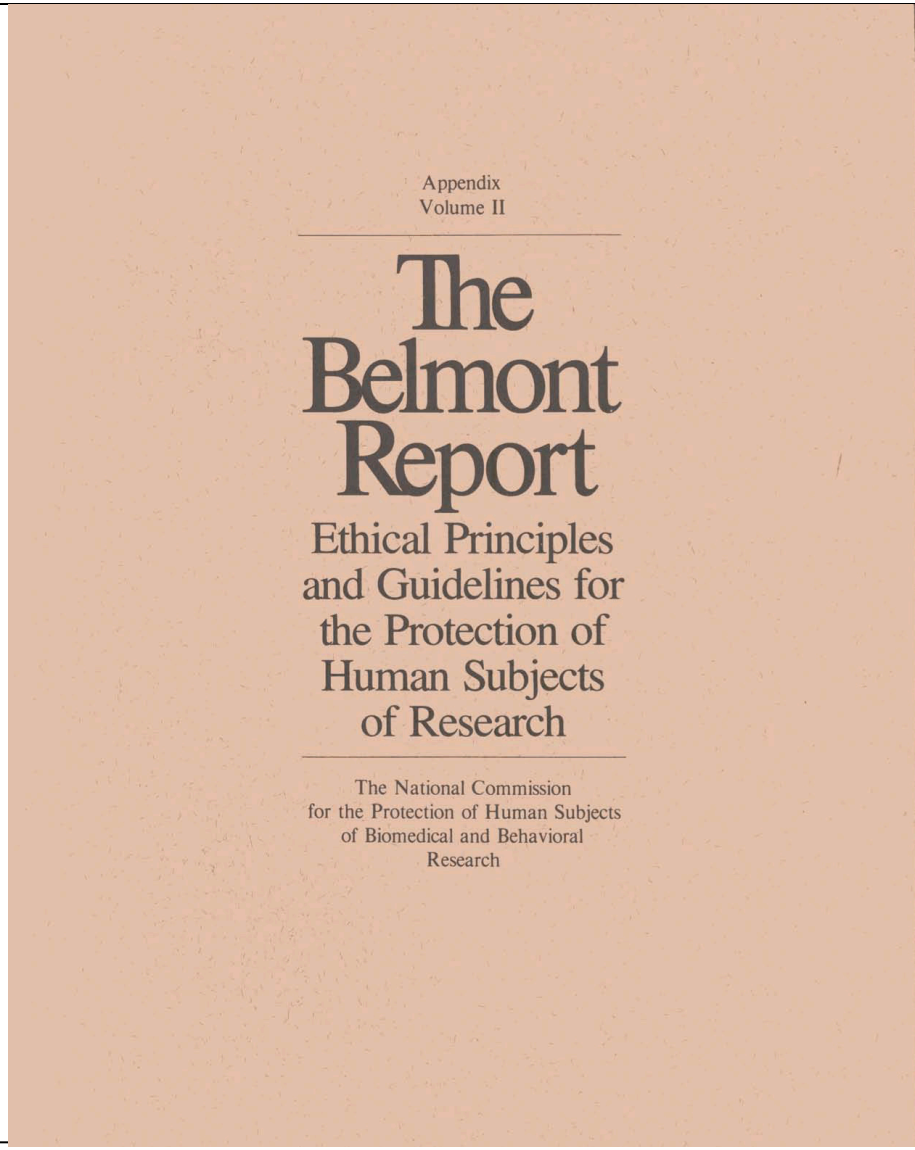


image credit: https://archive.org/details/belmontreporteth01unit

Research Ethics in NZ

- Voluntary participation
- Informed consent
- Rights of privacy
  - Confidentiality
  - Anonymity
- Ownership of data and right to withdraw
  - NZ Privacy Act
- Risk of harm
  - Harm can be psychological (and frequently is for software projects)

University of Auckland Human Participants Ethics Committee

- All research involving humans needs prior approval from UAHPEC
  - All student research (supervisor applies)
  - All staff research using human data
  - Regardless of staff location or location of data collection
  - Never retroactive
- Consent Form
  - Ensures informed consent
- Participant Information Sheet
  - Tells participants about the study
- Audit / analysis of archived data
  - May be approved without individual participant consent

Ethics in HCI

Therac-25

- Radiation therapy machine in 1985
- 6 people given overdoses of radiation resulting in injuries and 3 deaths
- UI allowed user to set radiation beam to low/medium/high
- User could backtrack and fix their error but if user hit "enter" fast enough a race condition could be triggered and the high setting would remain while the safety check registered as low

image credit: cipherfacts.com, https://hownot2code.com/2016/10/22/killer-bug-therac-25-quick-and-dirty/

Historical CSCW example

Tang, J. C. (1997). Eliminating a hardware switch: weighing economics and values in a design decision. In *Human values and the design of computer technology* (pp. 259-269).

image credit: https://www.camcor.com/dept/Carts.html

“Privacy by Design”

Deutsche Telekom T-View 100 ISDN type videophone meant for home offices and small businesses with a lens cover which can be rotated upward to assure privacy when needed (2007).

image credit: https://ipfs.io/ipfs/QmXoypizjW3WknFiJnKLwHCnL72vedxjQkDDP1mXWo6uco/wiki/Videophone.htmla

Informed consent

Experimental evidence of massive-scale emotional contagion through social networks

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Edited by Susan T. Fiske, Princeton University, Princeton, NJ, and approved March 25, 2014 (received for review October 23, 2013)

Emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. Emotional contagion is well established in laboratory experiments, with people transferring positive and negative emotions to others. Data from a large real-world social network, collected over a 20-y period suggests that longer-lasting moods (e.g., depression, happiness) can be transferred through networks [Fowler JH, Christakis NA (2008) *BMJ* 337:a2338], although the results are controversial. In an experiment with people who use Facebook, we test whether emotional contagion occurs outside of in-person interaction between individuals by reducing the amount of emotional content in the News Feed. When positive expressions were reduced, people produced fewer positive posts and more negative posts; when negative expressions were reduced, the opposite pattern occurred. These results indicate that emotions expressed by others on Facebook influence our own emotions, constituting experimental evidence for massive-scale contagion via social networks. This work also suggests that, in contrast to prevailing assumptions, in-person interaction and nonverbal cues are not strictly necessary for emotional contagion, and that the observation of others' positive experiences constitutes a positive experience for people.

computer-mediated communication | social media | big data

Emotional states can be transferred to others via emotional contagion, leading them to experience the same emotions as those around them. Emotional contagion is well established in laboratory experiments (1), in which people transfer positive and negative moods and emotions to others. Similarly, data from a large, real-world social network collected over a 20-y period suggests that longer-lasting moods (e.g., depression, happiness) can be transferred through networks as well (2, 3).

The interpretation of this network effect as contagion of mood has come under scrutiny due to the study's correlational nature, including concerns over misspecification of contextual variables or failure to account for shared experiences (4, 5), raising important questions regarding contagion processes in networks. An experimental approach can address this scrutiny directly; however, methods used in controlled experiments have been criticized for examining emotions after social interactions. Interacting with a happy person is pleasant (and an unhappy person, unpleasant). As such, contagion may result from experiencing an interaction rather than exposure to a partner's emotion. Prior studies have also failed to address whether nonverbal cues are necessary for contagion to occur, or if verbal cues alone suffice. Evidence that positive and negative moods are correlated in networks (2, 3) suggests that this is possible, but the causal question of whether contagion processes occur for emotions in massive social networks remains elusive in the absence of experimental evidence. Further, others have suggested that in online social networks, exposure to the happiness of others may actually be depressing to us, producing an "alone together" social comparison effect (6).

Three studies have laid the groundwork for testing these processes on Facebook. Specifically, they have demonstrated that (*i*) emotional contagion occurs via text-based computer-mediated communication (7); (*ii*) contagion of psychological and physiological qualities has been suggested based on correlational data for social networks generally (7, 8); and (*iii*) people's emotional expressions on Facebook predict friends' emotional expressions, even days later (7) (although some shared experiences may in fact last several days). To date, however, there is no experimental evidence that emotions or moods are contagious in the absence of direct interaction between experiencer and target.

On Facebook, people frequently express emotions, which are later seen by their friends via Facebook's "News Feed" product (8). Because people's friends frequently produce much more content than one person can view, the News Feed filters posts, stories, and activities undertaken by friends. News Feed is the primary manner by which people see content that friends share. Which content is shown or omitted in the News Feed is determined via a ranking algorithm that Facebook continually develops and tests in the interest of showing viewers the content they will find most relevant and engaging. One such test is reported in this study: A test of whether posts with emotional content are more engaging.

The experiment manipulated the extent to which people (N = 689,003) were exposed to emotional expressions in their News Feed. This tested whether exposure to emotions led people to change their own posting behaviors, in particular whether exposure to emotional content led people to post content that was consistent with the exposure—thereby testing whether exposure to verbal affective expressions leads to similar verbal expressions, a form of emotional contagion. People who viewed Facebook in English were qualified for selection into the experiment. Two parallel experiments were conducted for positive and negative emotion: One in which exposure to friends' positive emotional content in their News Feed was reduced, and one in which exposure to negative emotional content in their News Feed was reduced. In these conditions, when a person loaded their News Feed, posts that contained emotional content of the relevant emotional valence, each emotional post had between a 10% and 90% chance (based on their User ID) of being omitted from their News Feed for that specific viewing. It is important to note

Significance

We show, via a massive (N = 689,003) experiment on Facebook, that emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. We provide experimental evidence that emotional contagion occurs without direct interaction between people (exposure to a friend expressing an emotion is sufficient), and in the complete absence of nonverbal cues.

Author contributions: A.D.I.K., J.E.G., and J.T.H. designed research; A.D.I.K. performed research; A.D.I.K. analyzed data; and A.D.I.K., J.E.G., and J.T.H. wrote the paper.

The authors declare no conflict of interest.

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TECHNOLOGY

Everything We Know About Facebook's Secret Mood Manipulation Experiment

It was probably legal. But was it ethical?

ROBINSON MEYER JUN 28, 2014

REUTERS

Updated, 09/08/14

Facebook's News Feed—the main list of status updates, messages, and photos you see when you open Facebook on your computer or phone—is not a perfect mirror of the world.

Editorial Expression of Concern and Correction

PSYCHOLOGICAL AND COGNITIVE SCIENCES

PNAS is publishing an Editorial Expression of Concern regarding the following article: "Experimental evidence of massive-scale emotional contagion through social networks," by Adam D. I. Kramer, Jamie E. Guillory, and Jeffrey T. Hancock, which appeared in issue 24, June 17, 2014, of *Proc Natl Acad Sci USA* (111:8788–8790; first published June 2, 2014; 10.1073/pnas.1320040111). This paper represents an important and emerging area of social science research that needs to be approached with sensitivity and with vigilance regarding personal privacy issues.

Questions have been raised about the principles of informed consent and opportunity to opt out in connection with the research in this paper. The authors noted in their paper, "[The work] was consistent with Facebook's Data Use Policy, to which all users agree prior to creating an account on Facebook, constituting informed consent for this research." When the authors prepared their paper for publication in PNAS, they stated that: "Because this experiment was conducted by Facebook, Inc. for internal purposes, the Cornell University IRB [Institutional Review Board] determined that the project did not fall under Cornell's Human Research Protection Program." This statement has since been confirmed by Cornell University.

Obtaining informed consent and allowing participants to opt out are best practices in most instances under the US Department of Health and Human Services Policy for the Protection of Human Research Subjects (the "Common Rule"). Adherence to the Common Rule is PNAS policy, but as a private company Facebook was under no obligation to conform to the provisions of the Common Rule when it collected the data used by the authors, and the Common Rule does not preclude their use of the data. Based on the information provided by the authors, PNAS editors deemed it appropriate to publish the paper. It is nevertheless a matter of concern that the collection of the data by Facebook may have involved practices that were not fully consistent with the principles of obtaining informed consent and allowing participants to opt out.

PSYCHOLOGICAL AND COGNITIVE SCIENCES

Correction for "Experimental evidence of massive-scale emotional contagion through social networks," by Adam D. I. Kramer, Jamie E. Guillory, and Jeffrey T. Hancock, which appeared in issue 24, June 17, 2014, of *Proc Natl Acad Sci USA* (111:8788–8790; first published June 2, 2014; 10.1073/pnas.1320040111).

The authors note that, "At the time of the study, the middle author, Jamie E. Guillory, was a graduate student at Cornell University under the tutelage of senior author Jeffrey T. Hancock, also of Cornell University (Guillory is now a postdoctoral fellow at Center for Tobacco Control Research and Education, University of California, San Francisco, CA 94143)." The author and affiliation lines have been updated to reflect the above changes and a present address footnote has been added. The online version has been corrected.

The corrected author and affiliation lines appear below.

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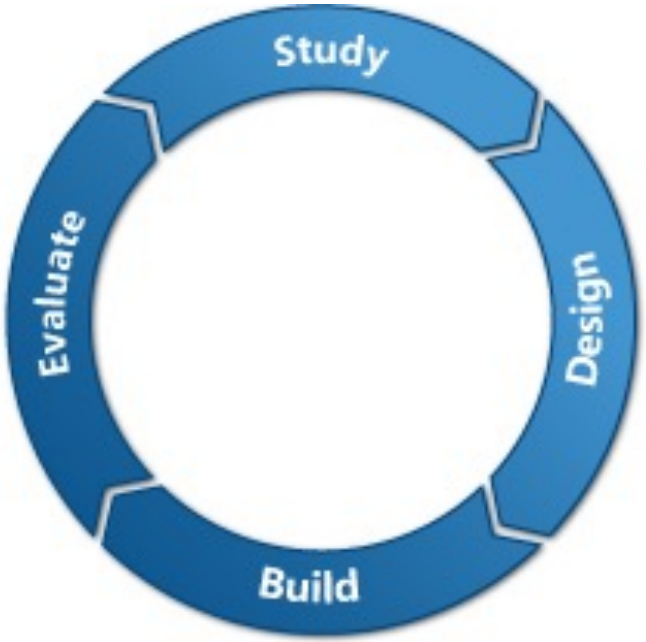
[2]Present address: Center for Tobacco Control Research and Education, University of California, San Francisco, CA 94143.

www.pnas.org/cgi/doi/10.1073/pnas.1412583111

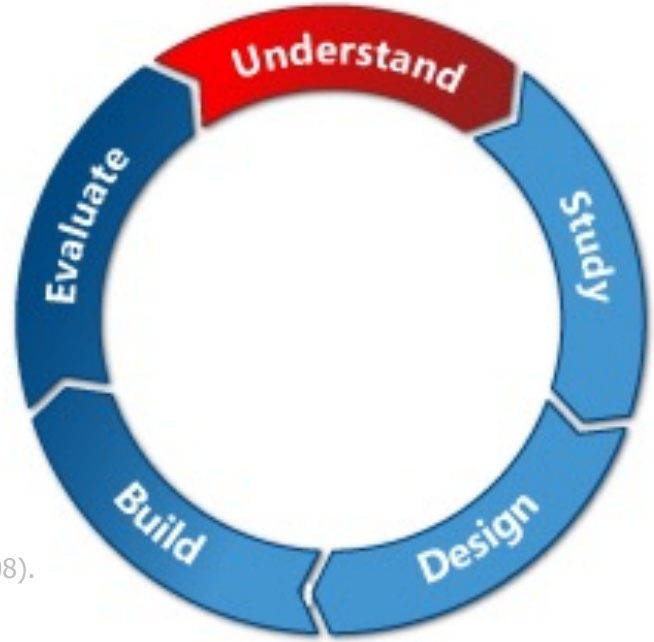
Practice Problem

- In 2014, a University of Cambridge psychologist recruited people to complete surveys on a Facebook app that collected information about themselves and their Facebook friends. Data from 50 million users were passed to Cambridge Analytica, a political consultancy firm.
- Were ethical research principles in the Belmont Report violated? If so, how?

Incorporate values in design process



The conventional user-centred, four-stage design/research model



Extended user-centred, five-stage design/research model. The new stage entails conceptual analysis or 'understanding'

Harper, E. R., Rodden, T., Rogers, Y., Sellen, A., & Human, B. (2008). Human-Computer Interaction in the year 2020.

Learning Objectives

- Understand ethical treatment of participants and participant data, to apply to your course projects
- Understand historical turning points for ethics in research with human participants and for ethics in HCI

What's next

- Project implementation demos' "check-in's" 11am-noon
- Project implementation due in week 10