

**Carnegie  
Mellon  
University**

CyLab



**Engineering &  
Public Policy**

# 07- (Ethics and) Qualitative Studies

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*Usable Privacy and Security*



# Today's class

- Ethics (from last Tuesday)
- Surveys
- Interviews
- Diary studies

# Participants, ethics, and deception

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- Recruit people to come to your lab
- Recruit people to let you into their “context”
- Observe people (if possible, get consent! If not possible, consider necessity of design)

# Participants

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- How do you get informed consent?
- What happens to their data?
- Prior knowledge / “what” are they?

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- Is there a less invasive method that would give equivalent insight?
- IRB is one arbiter of ethics; experimenters themselves are another crucial arbiter
- How do we make sure participation is voluntary throughout the experiment?



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- What “deception” or “distraction” task can we introduce?
- How do we maintain ethics?
- How do we debrief people at the end?

# An entire university's passwords

- 25,000 faculty, staff, students at CMU
- What are their password characteristics?
- How guessable are their passwords?
- How do demographic factors correlate with password strength?
- How do these real passwords compare to leaked / collected passwords?



## RISK ASSESSMENT / SECURITY &amp; HACKTIVISM

## It's official: Computer scientists pick stronger passwords

Landmark study says people in business school choose weakest passwords.

by Dan Goodin - Nov 8 2013, 12:28pm EST

IDENTITY PRIVACY B4



# Ethics questions

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- How did we get people's passwords?
- How did we obtain consent?
- What ethical concerns are there?
  - What seemed to be done well?
  - What could have been done better?

# Social phishing

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- Use social networking sites to get information for targeted phishing
  - “In the study described here we simply harvested freely available acquaintance data by crawling social network Web sites.”
- “We launched an actual (but harmless) phishing attack targeting college students aged 18–24 years old.”

# Social phishing

- Control group: message from stranger
- Experimental group: message from a friend

# Social phishing

- Control group: message from stranger
- Experimental group: message from a friend
- Used university's sign-on service to verify passwords phished

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- How did they obtain consent?
- What ethical concerns are there?
  - What seemed to be done well?
  - What could have been done better?
- Who was potentially affected by the study?
- “The number of complaints made to the campus support center was also small (30 complaints, or 1.7% of the participants).”

# Surveys

# Why do a survey?

- Obtain a little bit of data each from a lot of participants
  - Quantify attitudes and opinions
  - If done properly, lets you generalize
  - Quick, easy, unobtrusive, relatively cheap
- However, shallow data & biases (self-reported data, unanswerable questions)
- Multiple choice & open-ended questions

In groups of 2-3, write a 5-question survey about participants' feelings about online tracking

# Survey best practices

- Pilot, pilot, pilot!
  - Test different ways of wording questions
- Think about your sample
- Include attention checks
- Be cognizant of length
- There shouldn't be an “easy way to answer”
  - Branch questions in equal ways

“I read my Twitter the next morning  
and was astonished” A  
Conversational Perspective on  
Twitter Regrets

Sleeper et al.

CHI 2013

# Twitter regrets

- MTurk survey of 1,221 participants
- Compared conversational regrets and Twitter regrets
- Messages that gave TMI “were reported at a higher rate for Twitter”
- Strategies for avoiding and coping with regret on Twitter

# Twitter regrets

- Note the hypotheses in the introduction
- Why did they screen for Twitter users age 18+ in the USA?
  - How do you screen/advertise?
- Is conversational regret the right parallel?
- Do findings reflect all regrets?
- How was MTurk quality control done?



# Twitter regrets

- How was the data coded?
- Self-reported data
- Reverse causality (regret  $\rightarrow$  state of being?)
- Discussion of strategies

# The Post Anachronism: The Temporal Dimension of Facebook Privacy

Bauer et al.

WPES 2013

# Temporality

- Survey of participants' own content
- Recruited on Craigslist and MTurk
- How privacy preferences change (or don't change) as content ages
- Three surveys over time, plus a final survey to investigate changes

# Temporality

- “At the time you made this post, who did you want to be able to see it on Facebook?”
- “Please indicate how much you agree or disagree that each of the following impacted your change in preferences...This post did not depict me in the manner I wanted...”
- “Please describe why your preference for who you wanted to be able to see this post on Facebook changed.”

# Interviews

# Why do an interview?

- Obtain rich data from a few participants when you aren't sure what you'll find
  - Explore an area
  - If done properly, lets you identify themes
  - Come up with entirely new perspectives
- In most cases cannot quantitatively generalize frequencies of opinions
- Easy to be biased (conducting/reporting)
- Structured vs. semi-structured

I need a volunteer for an interview  
about online tracking

# Interview best practices

- Make participants feel comfortable
- Avoid leading questions. Stay neutral!
- Support whatever participants say (don't make them feel like they're incorrect)
- Know when to follow up
- Interview a broad range of people



# “I regretted the minute I pressed share”: A Qualitative Study of Regrets on Facebook

Wang et al.

SOUPS 2011

# Facebook regrets

- Interviews, user diaries, and online surveys
- 569 American Facebook users
- Why they make posts they later regret (and how to help them avoid these regrets)
  - “Hot” states, etc.

# Facebook regrets

- 268 responses on Facebook's blog asking privacy questions → 3 main themes
- 18+ American Facebook users from Mturk
  - Paid \$0.50
  - 321 valid responses after looking at short completion time, inconsistent answers, or off-topic answers to free-response questions

# Facebook regrets

- Pre-questionnaire for interviews
- Used Pittsburgh Craigslist
- “Selected” 19 users from 301 prospective participants
- Compensated \$20
- Audio recorded and transcribed interviews, along with screen shots

# Facebook regrets

- “One author coded the interviewee data and categorized it post-hoc into a list of common themes.”

# Facebook regrets

- Diary study
  - 12 of the 19 participants from the interview participated at least one day
  - Friend requests, activities, changes to profile or settings
  - “Have you posted something on Facebook and then regretted doing it? Why and what happened?”
  - 22+ days of entries → \$15

# Facebook regrets

- Survey 2 about regrets
- Compensation \$0.50
- 492 valid responses from MTurk

# Diary studies



# Why do a diary study?

- Rich longitudinal data from a few participants to test “in the field-ish”
  - Explore natural reactions and occurrences
  - Examine over longer time periods
  - “Existence and quantity” of phenomena
- Requires lots of work from participants
- Requires lots of work from researchers
- On paper vs. technology-mediated

# Best practices

- Think about when they do/don't need to record a diary entry
  - Frequency of entries
- Think about how long it will take to record a diary entry
- How structured should their entry be?
- Pay participants well

# The Many Faces of Facebook: Experiencing Social Media as Performance, Exhibition, and Personal Archive

Zhao et al.

CHI 2013

# Many Faces

- Diary study of 13 participants
- Goffman's performance region, Hogan's exhibition region
  - Added personal region
- Conducted 6 months after Timeline
  - 7 of 13 participants had already adopted Timeline; others were asked to adopt it

# Many Faces

- Used Facebook ads to recruit in local community (Ithaca, NY)
  - Used Facebook for years, “generated significant amount of social media content”
- Participants compensated \$15
  - Pre-survey (demographics, Facebook use)
  - Daily online diary for two weeks about “whether they had updated or changed their profiles... reviewed their own or others’ past content... managed past content”

# Many Faces

- One-hour interview in lab at end
  - Logged into Facebook account
  - Asked general questions about Facebook management, as well as questions about past content, offline archiving, other social tools

# Many Faces

- Iterative analysis
  - Four researchers met for open coding
  - Iteratively refined categories and subcategories
  - Then two researchers coded each interview with TAMS Analyzer
  - Face-to-face meetings with concept charting