Recruiting and crowdsourcing

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Some slides adapted from Lorrie Cranor
Warmup: Diary study activity

• In groups of 2-3
• Plan a diary/ESM study and brainstorm potential pitfalls
Recruiting

• Spectrum from convenience sample to true random (probabilistic).
  – There is convenient and convenient

• “Snowball” sampling
  – Ask people to refer their friends
HCI recruiting, in practice

• People on campus (ugh)
• Ask people you know to spread via social media (not great)
• Flyering / community mailing lists (maybe?)
• Craigslist or similar
• Crowdsourcing services (further discussion)
• Web panels (further discussion)

• Essentially no probabilistic
When is (relative) convenience OK?

• Questions where demographics/background really don’t matter (pretty rare)

• Interviews/experiments that require local visit
  – Not just students
  – Demographic/skills blocking!

• Study population is hard to access
CROWDSOURCED STUDIES
(ALSO ONLINE IN GENERAL)
What is crowdsourcing?

• Merriam-Webster: “The process of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers”

• Academic Daren Brabham: “online, distributed problem-solving and production model.”
In our context

- Finding study participants online
- Service handles details of recruitment, payment, etc.

(Much of what’s here might also refer to large-scale online study outside crowdsourcing service as well, except the payment/recruitment part)
Why crowdsource?

• Large numbers of participants
  – Without complicated logistics
  – From around the country, world

• Easily controlled conditions (sort of!)

• Relatively inexpensive
Why not crowdsource?

- No direct observation of participants
- Limited followups
- Some participants will enter garbage (always)
- Specific demographics participate
  - Younger, more technical than general population
  - Better than recruiting all students!
  - Usually worse than, e.g., Craigslist recruiting
Participant problems

• Attempted repeaters
  – Especially if you pay too much
• Entering garbage / not paying attention
  – Finish as quickly as possible
• Discussion in forums
  – What about deception?
• Terms of service may limit request types
Participant solutions

• Collect a lot of data
  – Noise distributed across conditions

• Use cookies, IP tracking, worker IDs

• Ensure there is no “shortcut”

• Use attention check questions, repeats
  – Carefully designed and placed
  – Do NOT use “trick” questions, esp. well-known

• Screening and training (Mitra paper)

• Monitor forums
Logistics: Infrastructure

- Directly within MTurk
  - Easiest, limited feature selection
- Redirect to survey software
  - UMD Qualtrics subscription
  - Well coordinated, not great for non-survey things
- Redirect to your own server
  - Best option for complicated studies
  - But requires design / management
Online infrastructure more generally: What can you measure?

• Time spent
• Window focus
• Copy-paste behavior
• Device type and browser version
• Other javascript things, etc.
Other useful features

• Screen and reject workers
  – Location, quality rating, etc.
• Send notifications (e.g. to come back for part 2)
• Prevent repeated workers in the same task
  – May need multiple tasks per study
• On average, 100 participants / day
  – Starts faster, slows down, repost
Kang et al., SOUPS 2014

• Survey on privacy attitudes and behavior
• Administered to:
  – Representative Pew phone sample
    • 775 Internet users
  – U.S. Turkers (182)
  – Indian Turkers (128)
Results: Demographics

• Turk younger, maler, more educated
  – Indian Turk even more so
Results: U.S. general vs. U.S. Turk

• Turkers more likely to seek anonymity
• Turkers more likely to hide content selectively
  – Except, general more likely to hide from hackers
• Younger, more educated say more data on them is available; take more steps to hide
• Turkers more concerned about privacy, more likely to say anonymity should be possibl
Results: U.S. Turk vs. India Turk

• Indians say more personal data is online
• U.S. more likely to seek anonymity
  – Indians more likely to hide from boss/supervisor
• Indians less concerned about privacy, more satisfaction with gov’t protection
• Fewer Indians say anonymity should be possible
  – More comfortable with monitoring to prevent terrorism
Beyond Turk

• Prolific: New but quickly growing
  – May have broader demographics
• Crowdflower
• Crowdsource.com
• Samasource
• Google consumer surveys
  – Only 10 questions, no experiments!
  – But more probabilistic
Web panels vs. Turk

- Panels: Qualtrics, SSI, others
- Recruit to match request demographics
- More expensive (priced by demographic difficulty)
  - You pay panel; they pay participant
- Can be useful to find non-Turk demographics
- Lots of biases in who joins panel, who responds
Panels vs. Turk vs. the U.S.

• New work specific to security/privacy questions
• Panel did worse than Turk in many ways
• Key problem seems to be about tech knowledge rather than about demographics per se
Resources

• https://experimentalturk.wordpress.com/
• http://www.behind-the-enemy-lines.com/