CI for Research Ethics

Inaugural workshop on Technical applications of CI

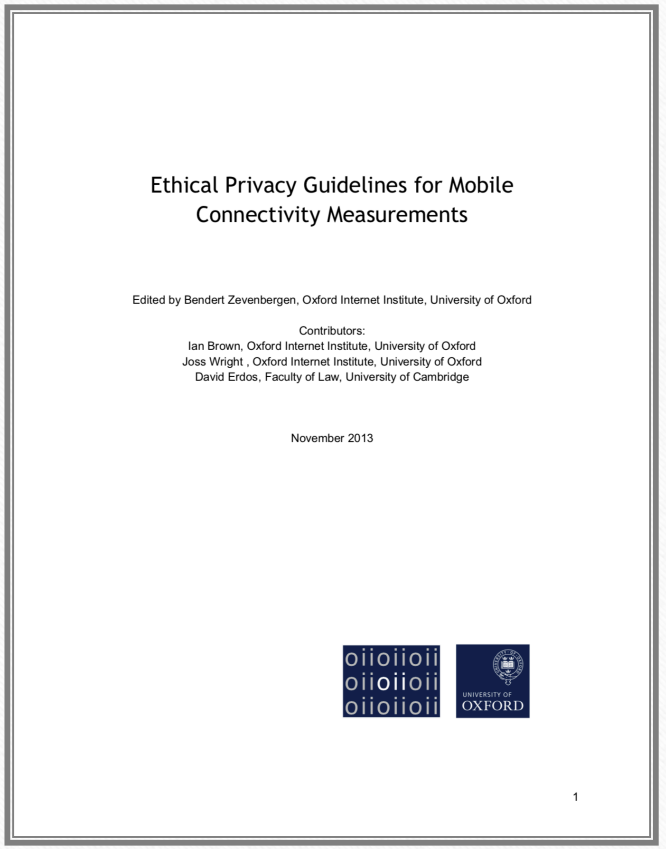
Princeton, December 2017

Ben Zevenbergen

CITP & OII

- First confrontation with translating ethics, law, and policy reasoning to engineering practice.
- Found book "Privacy in Context"

- Guidelines became a "gold standard" for mobile data collection in a tech firm, beyond initial research focus.
- Incentivized to expand the scope,
  - Beyond mobile data collection,
  - Beyond privacy.
- Led to:
  - www.networkedsystemsethics.net
  - Change of PhD topic.



Ethical Privacy Guidelines for Mobile Connectivity Measurements

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November 2013

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What's the problem you are trying to solve..

- End goal: ethical review of technical experimentation on the Internet.
  - Increasing social impact of information technologies
- Reasoning about *'good'* and *impact* of technical projects differs,
  - Engineers, lawyers, policy makers, ethics review committees, end users, etc.,
  - Sometimes significantly & insurmountable. Reviews may be avoided.
- Compliance/checklist ethics vs. deep ethical analyses,
  - Neither is helpful,
  - Spectrum of *ethics* exists,
  - Middle ground: to construct meaningful and informed conversation across disciplines.

How and why CI was used…

- Step-by-step heuristic framework understood by most disciplines,
  - Intuitive for engineers in development process/functional requirements,
  - CS papers references CI as workable definition of privacy,
  - *Appropriateness* is a vague but useful benchmark for discussions/analyses.
- Useful as a framework to develop more targeted questions,
  - *Ethical tripwire questions.*
- Inter-disciplinary workshops around the world to gather input,
- Iterative nature of guidelines due to breakout group led by Nick Feamster and David Clark.

Current progress and results…

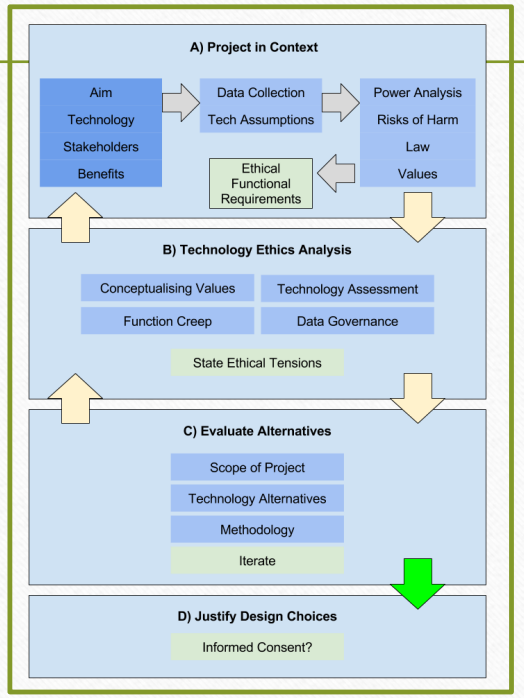
- See http://networkedsystemsethics.net/
- Many presentations at CS conferences, including keynote and workshops,
- Informal advisory board
- Current cases:
  - Password dump research,
  - Internet censorship measurement,
  - Middleboxes,
  - AI research ethics?

http://networkedsystemsethics.net/

Summary questions (TL;DR)

These fundamental research ethics questions lead you to more elaborate explanations in these guidelines, as well as additional questions to consider. Ideally, the engineer and ethics boards should follow the Iterative Reflexivity Methodology, but these initial questions are a good start to identify where more attention is needed. These questions may also serve as a starting point for ethics committees of a department, journal, or conference, for their internal considerations:

- **Context:** How would you describe the context within which data is collected, information flows are created (or affected), or phenomena are measured?
- **Aims:** What are the aim and benefits of the project?
- **Benefits:** Why are the benefits good for stakeholders?
- **Purpose limitation:** Can the scope of data collection be limited whilst still achieving the project aim?
- **Politics and Power:** Are particular stakeholders empowered or disempowered as a result of this project?
- **Risk of Harm:** Could the collection of the data in this study be reasonably expected to cause tangible harm to any person's well-being?
- **Law:** Which bodies of law are likely to be applicable to the operation of the project?
- **Values:** Which values will the project conceivable impact?
- **Burdens:** Who carries the burden of harms or impacted values, and how?
- **Technology Ethics:** Can the harms and impacted values be traced to parts of the technological design of the project?
- **Function Creep:** Does the project potentially set a precedent for unethical methodologies that could be misused by others in the future?
- **Data Governance:** Using current techniques, can the data used in this study reveal private or confidential information about individuals?
  - If so, discuss measures taken to keep the data protected from inappropriate disclosure or misuse.
- **Data Retention:** When will the collected data be deleted?
- **Tech Alternatives:** Have you considered measures to mitigate the identified risk of harm or impacted values?
  - Can alternative technologies be employed or devised to mitigate some issues?
- **Limit Scope** Can you limit the scope of the project (geography, knowledge generated, etc.)?
- **Methodology:** Have others used alternative methodologies to achieve similar ends?
- **Informed Consent?** Do you need to rely on informed consent from participants and stakeholders?



Challenges encountered, Lessons learned…

- Direct application of decision heuristic to cases was not intuitive,
  - Too general and high-level, needed specification, elaboration, and adaptations.
- High level political theory/ethics/philosophy concepts too vague,
  - Influenced by worldview, which differs across disciplines,
  - Needs support to agree on workable definitions (more guidelines?) .
- NSE Guidelines are too long and not user friendly,
  - Decision tree software/chatbot? Board game? Short videos?
  - Or is it futile to summarize all considerations into a workable document?

Provocative, advocate of the devil, don't pin me down on this comment

- Maybe the usefulness of CI is it's high level and simplicity,
  - When zooming in, difficult philosophical and social questions arise,
  - Can/will lead to confusion across disciplines,
  - Simplicity may be its beauty,
  - Or go deep, but **remember to tie it back to the higher level!?**
  - Rather than getting lost in depth.
- Flipside: High-level may be opportunity to redefine in self-serving ways,

Future work

- Support through cases in PhD thesis (due April),
  - Theoretical lens, three cases, analytical chapter.
- Make more accessible to technical project teams,
  - Academic scholarship, R&D, and beyond. Gamification, videos, etc.
- Ethics review column in CS journals,
  - Please join in!
- Apply to narrow AI technologies,
  - Support development of AI ethics as an academic discipline.