

# CS 4873: Computing, Society & Professionalism

Blair MacIntyre | Professor | School of Interactive Computing

## Week 8: Privacy

March 8, 2021

*Slides adapted from Sauvik Das, Munmun de Choudhury, and Amy Bruckman*

# What is privacy?

- Privacy is a fairly loaded topic. No one is a blank slate.
- “Privacy is a value so complex, so entangled in competing and contradictory dimensions, so engorged with various and distinct meanings, that I sometimes despair whether it can be usefully addressed at all.” — Robert C. Post (2001)
- For some of you, it can bring up echoes of Orwellian-dystopias and “big brother”. Solove uses Kafka’s “The Trial”

# Kafka's "The Trial"

- “a man arrested and prosecuted by a remote, inaccessible authority, with the nature of his crime revealed neither to him nor to the reader”
- Echoes the idea of being watched and judged by an invisible eye, with no sense of what they know and where they're looking.

# What is privacy?



“the right to be let alone”

Warren & Brandeis, *The Right to Privacy*, 4  
Harvard Law Review  
193 (1890)



having a “zone of inaccessibility”



Contextual boundary regulation

# Control over information about self

- “Privacy is the claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others”
  - Alan Westin, Privacy and Freedom, 1967

# Contextual boundaries of privacy management

## Disclosure: privacy vs publicity

- “We seek to maintain not just a personal life, but also a public face”

## Identity: self vs. other

- “Our...ability to understand and anticipate how [our] actions appear to others...is sometimes compromised in information technology”

## Temporality: present vs. future

- “Technology’s ability to easily distribute information and make ephemeral information persistent affects the temporal nature of disclosure.”

# More on privacy

- Privacy violations are an affront to human dignity.
  - Treat people as a means to an end.
- Some things “ought not to be known”
  - Examples?

# What are the benefits of privacy?

- Individual growth – need some personal space to explore own ideas, interests
- Freedom to be yourself
- Development of different types of relationships
- Privacy is essential to democracy
  - Behaviors and conversations we have when being “watched” are different than when we are alone or with trusted others.
  - Democracy founded on the ability for people to have and explore unpopular or minority opinions



# What are the harms of privacy?

- Puts a great burden on the nuclear family to care for its members
- Makes it difficult to stop family violence
- People on society's fringes may have too much privacy
  - People with mental disabilities, for example
- Allows for illegal or immoral activities to go unpunished

# Balance

- At a societal level, need to balance individual desire for privacy against the “good of society”
- Factors to be balanced:
  - Safeguarding personal and group privacy, in order to protect individuality and freedom against unjustified intrusions by authorities.
  - Collecting relevant, personal information for rational decision making in social, commercial, governmental life.
  - Conducting the constitutionally limited government surveillance of people and activities necessary to protect public order and safety.

# Different granularities



## Societal level

Individual liberty vs public good

Is privacy a “right”?

A “prudential” right?

Free-market vs  
consumer-protection approaches



## Individual level

Control over information about  
oneself

Awareness of data collection practices

Consent of information collection,  
processing and use

# Is there a right to privacy?

- What did Warren and Brandeis say?
  - No good remedies for victims of privacy violations
    - Libel or slander only if “untrue”
  - Argue that people should have “the right to be let alone”
- Judith Jarvis Thomson said:
  - Every violation of a privacy right is a violation of another right
- Privacy as a *prudential* right: Rational agents would recognize some privacy rights because granting these rights is of benefit to society
- Question: Should privacy be an absolute or prudential right?

# How do computers change privacy?

- Computers add to the ease of collecting, searching, cross referencing personal info
- Make it easier to use information for secondary purposes
  - Purposes *other* than the ones originally collected for
- Laws written before new technologies often don't adapt well
  - 3<sup>rd</sup> Party doctrine
- Information gathering can be invisible
  - Hard to make rational decisions if you don't know what's being collected
- Collect new kinds of information
  - GPS
  - Medically implantable sensors

# Computers also afford new privacy and security technologies

- Encryption
- Automated authentication
- Algorithms for differential privacy

# The “Going Dark” problem

- *“Law enforcement at all levels has the legal authority to intercept and access communications and information pursuant to court orders, but it often lacks the technical ability to carry out those orders because of a fundamental shift in communications services and technologies. This scenario is often called the “Going Dark” problem.”*
  - From fbi.gov
- Physical world: if law enforcement has a warrant, anything in home, vehicle etc. is subject to search and seizure.
- Digital world: if law enforcement has a warrant, properly encrypted drives remain unsearchable.

# Are encryption “backdoors” a good idea?

- Encryption back doors allow organizations to have a “master key” to unlock all encrypted information and communications. Can only be used with a warrant.
- Is that a good idea?



# Case study from Quinn: Nanny cams

- New parents hire a nanny for childcare
  - Install a “nanny cam” – camera that monitors nanny’s interactions with child – to make sure that the nanny is not abusive
  - Nanny is unaware of nanny cam
- Is it wrong the the new parents to secretly monitor the behavior of their nanny?
  - Consider using rule-utilitarianism, social contract theory, Kantianism and virtue ethics

# Rule-Utilitarian Evaluation

- If everyone monitored nannies, would not stay secret
- Consequences:
  - Nannies would be on best behavior in front of camera
  - Might reduce child abuse
  - Increase stress and reduce job satisfaction
    - Higher turnover rate, less experienced pool of nannies, lower overall care
- Harms > benefits?
  - Kind of hypothetical

# Social Contract Theory

- Rational agents:
  - Nannies: reasonable expectation of privacy when in closed environments
  - Parents: reasonable expectation of care when hiring someone to take care of their child
  - Children under care? Not rational agents!
- Would rational people agree to give up their own privacy and be surveilled by employers? Would rational people be willing to let their children out of sight with a hired caretaker for a period of time?
- Decision could be right or wrong under SCT, you'd just need to make a case!

# Kantian

- First formulation:
  - Imagine rule: “An employer may secretly monitor the work of an employee who works with vulnerable people”
  - If universalized: Anyone can secretly monitor anyone else at anytime.
  - There would be no expectation of privacy, so secret monitoring would be impossible. Self-defeating rule
- Second formulation:
  - Parents treating nanny as a means to an end (ensuring child is well cared for)
- Morally wrong to secretly monitor

# Virtue ethics

- Parents should be partial to their children – it is only natural for parents to be concerned for the welfare of their child when leaving her with a stranger.
- Secret monitoring is a characteristic of good parenting
- BUT: once parents are reassured that nanny is not abusive, should stop. Trust in others and treating them with dignity is also a virtue.

# San Bernardino incident

- Mass shooting in San Bernardino, CA
- Government recovers iPhone of shooter, but it's encrypted. Wants access to info in the interest of public safety.
- FBI gets a court order and demands that Apple write special software to thwart self-destruct security measures
- Apple refused, arguing that it would set a dangerous precedent
  - Doing so would encourage other countries like China or Russia to make similar demands

# Did Apple do the right thing?

- Consider the San Bernadino “going dark” problem from the perspective of an ethical framework of your choice.
  - Did Apple do the right thing by refusing to circumvent their self-destruct feature for authorities?
- What do our ethical frameworks suggest?

# Virtue Ethics and Social Contract Theory

- Virtue Ethics
  - "practical wisdom" – protecting the public from further harm if the threat is still imminent would be virtuous
  - If there is no imminent threat, then upholding promises to customers might be the more virtuous action
- Social contract theory
  - Apple, Government, Consumers
  - Law says that government should be allowed access. So...should be allowed access. Necessary for preserving public order.
  - Did consumers enter a social contract with Apple with respect to privacy protections?



# Utilitarianism and Kantianism

- Rule utilitarianism:
  - Generally more harm than good
    - harm to all people who encrypt their data on iPhones
    - harm to Apple (customer dissatisfaction)
    - benefit to lawmakers and public in very specific circumstances
- Kantianism:
  - Formulation one: If Apple allowed all such requests, encryption would have no meaning. If encryption had no meaning, no one would encrypt
    - What about if only gov't requests?
  - Apple would also then be lying to customers

# Privacy and functionality

- A key difficulty with privacy is that it is often something that can be traded for “functionality”
- Hyperbolic discounting
  - Choosing privacy could be better for you in long-term
  - Choosing free ice cream gets you free ice cream now.

# Data Gathering and Privacy Implications

- Facebook has access to any pictures you upload of yourself, your friends, your environment.
- Can use that data to create highly accurate and sophisticated algorithms that can reconstruct social and environmental context
  - Friends (& non-friends) in your pictures
  - Where you are
  - What you're doing

# Data Gathering and Privacy Implications

- Many grocery stores have rewards program that can help customers save money
- Can also match your purchases to your identity to send you coupons for frequently purchased items.
- Can also sell that information to advertisers.

# Data Gathering and Privacy Implications

- Google Maps is useful for obvious reasons
  - But also knows exactly where you've been and where you're going
  - How fast you're going
- What if Google is subpoenaed for that information? Imagine all the retrospective speeding tickets.

# Privacy is a database correlation problem

- Jerry Saltzer: “Privacy is a database correlation problem”
  - What does he mean?
- Much of the dangers of internet enabled monitoring is in the merging of different silos of information:
  - Grocery store customer loyalty program sold to advertisers
  - Purchase history linked with social media accounts (Facebook, Twitter)
  - Social media accounts linked to other online activities (web trackers)
  - ...
  - Advertisers send a coupon to your home address with coupons to purchase diapers – surprise, we know you’re pregnant!

# Book discusses Numerous Examples of Privacy Violations, Public Outrage

- But doesn't dig very deep

# Privacy violations cause a variety of harms (Solove)

- Information Collection
  - Surveillance
  - Interrogation
- Information Processing
  - Aggregation
  - Identification
  - Insecurity
  - Secondary Use
  - Exclusion
- Information Dissemination
  - Breach of Confidentiality
  - Disclosure
  - Exposure
  - Increased Accessibility
  - Blackmail
  - Appropriation
  - Distortion
- Invasion
  - Intrusion
  - Decisional Interference



# Privacy is about more than “what is known about you”

- Solove (and optional O’Hara) focus on the issue that absence of individual privacy is a societal problem, too
  - Ability to have separate public/private life vital
  - Society requires individuality which requires privacy
- Flaw in “I’ve got nothing to hide”
  - Lack of privacy dissuades legal activities
  - Encourages “conform and fall in line”
  - Encourages despair from a sense of loss of control (Kafka)
  - Think about effects of McCarthyism, Soviet States

# Privacy is not a lost cause

- Not bringing all this up to say "You have zero privacy anyway. Get over it" (actual quote for former CEO of Sun)
- Much of this fight will be fought by **you**, when you go on to take jobs. The decisions we make about privacy today will set the precedent for future generations.
- Choose to think about the long-term consequences of data collection and mining.
  - *Not always bad!* Functionality of information technology is a great boon. Just needs to be done responsibly.

# Free market vs consumer protection view

- Free market: it's your choice how much info to give away
  - Privacy as a negative right
- Consumer protection: People don't understand implications, consumers can't negotiate terms with a business
  - Privacy as a positive right
- Ignores larger question of what is best for society
  - Perhaps you shouldn't be *allowed* to make this choice?