CPSC 430 Computers & Society

Class 3C: Privacy (Chapter 5)

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Slides courtesy of Dr. Kevin Leyton-Brown

Class Outline

1. Announcements (10 mins)

2. Activity: Defining Privacy (20 mins)

3. Introduction to Privacy (30 mins)

4. Break (10 mins)

5. Data Mining and Anonymization (40 mins)

6. Wrap-up Activity (20 mins)

7. Reminders before next class (5 mins)

Announcements

Reminders

- "Essay Quiz 0" and "Resubmission of Essay Quiz 0" scores are released
  - Most students who resubmitted improved their scores!
  - The ones that didn't also got 0/2 on the resubmission reflection

- Use "Appeals" to request a TA regrade on your essay.
  - Appeals will appear once scores are released

- Use "Report Inappropriate" to flag abusive and offensive language, **not** if you disagree with peer evaluations

Activity:
What is Privacy?

Getting Started with Privacy

- ## What is Privacy?

  – Work in a group.

  – Come up with the best definition of the term you can.

  – Try to think of

    - The example least like privacy that is still captured by your definition
    - The example most like privacy that fails your definition

  – (We're not worried at this point about whether privacy ought to be a right; that's our next topic)

Introduction to Privacy

Defining Privacy

- Privacy is related to the notion of access
  - Physical proximity to you
  - Knowledge about you

- Byrne: Privacy is a "zone of inaccessibility"
  - your ability to deny others access to you

- Bloustein: Privacy violations are an affront to human dignity

- Too much individual privacy can harm society
  - *Can you think of examples?*

- Key question: Where to draw the line?

Benefits and Harms

- ## Harms of Privacy
  - Cover for illegal or immoral activities
  - Burden on the nuclear family
    - With less privacy comes more broadly shared responsibility
    - Relatedly, allows dysfunctional families to remain hidden
  - Ignored people on society's fringes
    - cursed with too much privacy

- ## Benefits of Privacy
  - Individual growth & responsibility
    - Individuation, a key psychological stage, requires privacy
    - Without privacy, you can't be considered free, hence held responsible
  - Freedom to be yourself
    - not having to act as though others are watching, maintain a public persona
    - Focus your thoughts on a creative (or religious) task without interruption
  - Development of loving, trusting, caring, intimate relationships
    - inconceivable without the "moral capital" of privacy

Is There a Natural Right to Privacy?

- Morton Levine: Privacy rights stem from property rights
  - "a man's home is his castle"

- Warren and Brandeis: An explicit "right to be let alone"
  - Noted that libel and slander laws don't prevent people from saying mean, true things about you

- Thomson: violations of "Privacy rights" are also violations of other rights
  - So, we don't need to treat privacy separately

- Benn and Reiman: Some amount of privacy is necessary for people to be autonomous, moral agents, to develop healthy relationships, and to act as free citizens.

- *Is privacy a right?*

- *Is it a "prudential right"?*
  - *worth recognizing for the good of society, though not a natural right*

- *Or do we have no such right at all?*

Privacy and Trust

- Modern life more private

- Challenge: living among strangers

- Remedy: establishing reputations
  - Ordeal, such as lie detector test or drug test
  - Credential, such as driver's license, key, ID card, college degree

- Establishing reputation is done at the cost of reducing privacy

- Quinn's case study: the new parents
  - Is secret surveillance of a new nanny ethical?

Data Mining and Anonymization

Ways Information Becomes Public

- Rewards or loyalty programs

- Body scanners

- Digital video recorders

- Automobile "black boxes"

- Enhanced 911 service

- RFIDs

- Implanted chips

- Cookies

- Spyware

…can you think of others?

Data Mining

- Data mining
  - Searching for patterns or relationships in one or more databases
  - This info typically provided by the customer for another purpose

- Many internet services provided as an opportunity to gather valuable data
  - Google; Facebook; free online courses

- Also performed by the government
  - Efforts to detect terrorism via phone, bank, travel records
  - Tax audits

- *Questions:*
  - *Ownership: do you have any rights over info about transactions in which you participated?*
  - *Ethics: what data mining activities are unethical? Which are ethical?*
  - *Does it make a difference whether DM is opt-in or opt-out?*
  - *At what point does DM become "creepy"?*
  - *Should we worry about ending up in a "personalization bubble"?*

De-anonymization of data

Zip Code	Birthday	Sex	Name	Address
12345	10-Jan-1958	M	William Weld	…

MR1	MR2	Zip Code	Birthday	Sex
		12345	10-Jan-1958	F
…	…	12005	10-Jan-1958	F
		10094	10-Jan-1958	F
		12345	10-Jan-1958	M
		11144	10-Jan-1958	M
		18001	10-Jan-1958	M

Image from https://www.iq.harvard.edu/people/latanya-sweeney

Material based on "The ethical algorithm", by Kearns and Roth

Congratulations! Here is a coupon

- In the early 2000's, a data scientist at the retail store Target figured out how to identify pregnant customers based on their purchase history.

- Target would then send coupons to encourage and secure future purchases of infant-related items

- True story: an angry man went into a Target outside of Minneapolis, demanding to talk to a manager, because the store was sending coupons to his teenage daughter

- It turns out, the daughter was really pregnant...

- After this episode, Target stopped sending *only* coupons for baby-products to customers, mixing them with other coupons

Do you think Target is acting ethically in identifying pregnant people for marketing purposes?
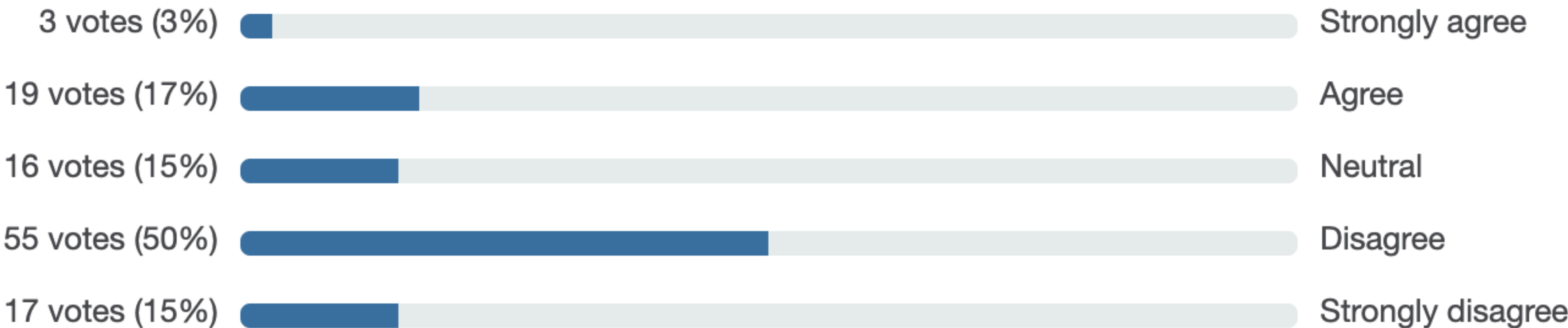
"On our watch"

This Italian movie, released in 2021, explores (satirically) the dangers of machine learning and data mining in the hands of powerful tech giants

Wrap-up Activity

Reminders before next class