A tale of two cities
The first city
The second city

- Less than 3% of consumers read privacy policies
- 75% of consumers think that the existence of a privacy policy implies privacy protection
- 54% of privacy policies are beyond the grasp of 57% of the Internet population (requiring the equivalent of more than fourteen years of education)
- The aggregate opportunity cost of US consumers actually reading privacy policies would be $652 billion/year
Only 11% of respondents understand the description of Network Advertising Initiative opt-out cookies.

Unbeknownst to users, three of the top 10 Facebook apps, including FarmVille, have been transmitting personal information about a user's friends to outside companies (contra Facebook's privacy policies, and violating its TOS).

Aggregators such as Rapleaf obtain Facebook IDs from Facebook apps, merge them with other personal data, and sell them to advertisers.
“RapLeaf's information [includes] a person's [names, as well as his] household income range, age range, political leaning, and gender and age of children in the household, as well as interests in topics including religion, the Bible, gambling, tobacco, adult entertainment and "get rich quick" offers.” (WSJ, October 25th)

“RapLeaf says its transmission of Facebook and MySpace IDs was inadvertent and the practice was ended after the [WSJ] brought it to the company's attention. The company says people can permanently opt out of its services at RapLeaf.com.”
Privacy as a moving target

1. Asymmetric information
2. Bounded rationality
3. Cognitive and behavioral biases

"Informational interventions are only effective against one of the two broad categories of mistakes that people make – those that result from incorrect information – and not against the other: self-control problems."

Loewenstein & Haisley, 2008

- In short: Experimental literature tells us that the “choice & notification” approach is inadequate for privacy protection
A tale of two concepts

- Necessary conditions vs. Sufficient conditions

OECD FIP

- Normative statements vs. Positive statements
Privacy and the control paradox

Control :: Privacy
Privacy and the control paradox

Control :: Privacy
Privacy and the control paradox

Control :: Privacy
The control paradox hypothesis

- Conjecture: When deciding what to reveal about ourselves, we confound control over publication of private information with control over access/use of that information by others
  - Even though objective privacy costs derive from access to/use of information by others, not merely its publication

- Hence:
  - Users who perceive more control over publication of personal information will disclose more sensitive information and more widely – even though in reality they may have less control over access and use of that information
  - Viceversa, Users who perceive less control over publication of personal information will disclose less sensitive information and less widely – even though in reality they may have more control over access and use of that information
Implicit control condition

Study on Ethical Behavior

**IMPORTANT:** All answers are voluntary. By answering a question, you agree to give the researchers permission to publish your answer.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1. Are you married?</td>
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<td>2. Have you ever been fired by your employer?</td>
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<td>5. Have you ever lied about your age?</td>
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<td>6. Have you ever had cosmetic surgery?</td>
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<td>7. Have you ever done any kind of voluntary service?</td>
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<td>8. Have you ever seen in a public venue (e.g., restroom of a club, airplane)?</td>
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<td>9. Have you ever made a donation to a non-profit organization?</td>
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<td>10. Do you have any permanent tattoos?</td>
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Close
Explicit control condition

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Close
Results

Average Publication Rates

- Implicit control
- Explicit control
Implications

- When someone other than themselves is responsible for the publication, people will less comfortable with disclosing.
- Results call into questions OSNs’ arguments of protecting privacy by providing more granular control to members.
  - *Giving more control to users over information publication seems to generate higher willingness to disclose sensitive information.*
“Malleable” disclosure/privacy behavior does not imply that consumers do not care.

But it does imply that self-regulatory approaches are fragile, since consumers may be manipulated.

Consider, for example:

- "You have zero privacy anyway, get over it" (Scott McNealy)
- “The social norm [about privacy] is just something that has evolved over time” (Mark Zuckerberg)
Mall patrons asked to participate in (decoy) survey
As payment for participation, subjects were offered gift cards
We manipulated trade-offs between privacy protection and value of cards
Subjects *endowed* with either:
- **$10 Anonymous gift card.** “Your name will not be linked to the transactions completed with the card, and its usage will not be tracked by the researchers.”
- **$12 Trackable gift card.** “Your name will be linked to the transactions completed with the card, and its usage will be tracked by the researchers.”
Subjects asked whether they’d like to *switch* cards
- From $10 Anonymous to $12 Trackable (WTA)
- From $12 Trackable to $10 Anonymous (WTP)
Results: People with less privacy, value privacy less

- Endowed $10 (n=71): 52.1%
- Endowed $12 (n=62): 9.7%
Across history: Privacy...
... versus Publicity
Eliciting the drives for Privacy vs. Disclosure

- Task: Online study. Subjects asked to answer the question: “What is the most unethical thing you have ever done?” (N=498)
- Design: 2x2 between-subjects, manipulating:
1. Dominant drive (disclosure vs. privacy), manipulated through look of survey:
Eliciting the drives for Privacy vs. Disclosure

2. Disclosure salience:

*Low salience*: sample answer

*High salience*: sample answer
Eliciting the drives for Privacy vs. Disclosure

The diagram illustrates the comparison between Disclosure and Privacy with respect to dominant motives and salience levels. The x-axis represents Dominant motive with two categories: Disclosure and Privacy. The y-axis represents Disclosure with levels ranging from 1 to 3. The diagram shows two bars for each category: one for Low salience and one for High salience, indicated by error bars.
Another tale of two cities
For more info

- **Google:** economics privacy
- **Visit:** [http://www.heinz.cmu.edu/~acquisti/economics-privacy.htm](http://www.heinz.cmu.edu/~acquisti/economics-privacy.htm)
- **Email:** acquisti@andrew.cmu.edu
Awareness, Understanding, and Individual Decision-Making

Alessandro Acquisti

Heinz College/CyLab
Carnegie Mellon University

OECD Conference
October 26, 2010
Overall implications of these privacy studies

- “Choice & notification” privacy model may be outdated
- Implications for policy-making & the debate on privacy regulation
  - Consider: Chicago School approach vs. privacy advocates
  - “Nudging” privacy?