

CT60A7001 Critical Thinking
and Argumentation in Software
Engineering

Group 2 - Liars and Outliers



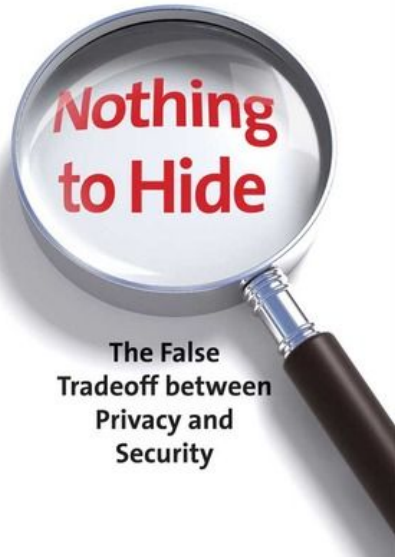
Introduction

What does it mean “to feel safe and private”?

How can we trust each other?

Daniel J. Solove: Nothing to hide

DANIEL J. SOLOVE



Basic concepts:

- Privacy vs security
- Ubiquitous security
- Government and security
- Levers on security

Balancing privacy and security

- Nothing to hide: everyone has something that they wouldn't tell others
 - Even if you are doing ok with something others might not (eg. obscure laws)
 - Kafkaesque information processing problems:
 - aggregation, exclusion, secondary use, distortion
- All or nothing: there are less intrusive ways to get similar security effects
 - Privacy vs. security is not a binary decision (often viewed as such)
 - protecting privacy does not negate security measure entirely
- Danger of deference: Security expert opinion should not be accepted as-is
 - The job of security experts is to make things secure and not consider privacy
- Privacy is a societal value granted to its individuals and is tied closely to other values such as freedom of speech
 - Privacy is the freedom of not having to disclose everything

Law and National Security

- Pendulum argument: When there is crisis, privacy can be sacrificed for security
- National Security argument: Privacy can be sacrificed in matters of national security
 - What counts as “national security”?
- Crime-Espionage distinction: Different laws for crimes and espionage
- War Powers argument: The president can bypass the law because he has the power to start a war

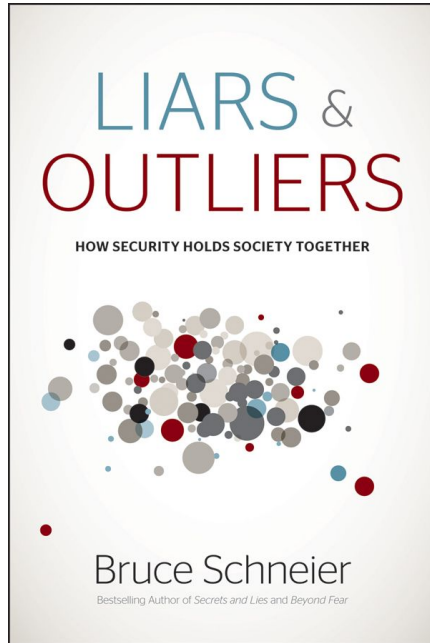
Constitution, laws and privacy

- Fourth Amendment contains basic privacy protection, but has issues
 - Third Party Doctrine: your information is held by other companies
 - Fourth Amendment does not protect this information
 - No protection against information you provide, even when tricked
 - Exclusionary rule: If Fourth Amendment broken, evidence can't be used
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- Adapting old laws to new technologies is hard, sometimes impossible
 - Data mining is a bad way to find crime
 - Criminals and terrorists do not have a single profile

Conclusions

- The book is not here to solve privacy forever, but to eliminate faulty arguments from discussions
- With faulty arguments gone it will be easier to find a balance between privacy and security

Bruce Schneier: Liars and Outliers



Basic concepts:

- system of trust
- societal dilemmas
- pressures on trust
- trust vs technology

Concept of trust

- What is trust?
 - Societies need trust to work
- However: all complex ecosystems have parasites – there are always defectors in complex societies
 - A balance between those who play by the rules, and those who see it more profitable to defect
- A society is a nebulous term, depends on the context
- Bigger societies are more complex and have less social ties – less trust?
 - Dunbar Numbers
- Societal dilemmas – individual interests vs. interests of the group
 - Prisoner's dilemma, Tragedy of the Commons, Free-rider problem

History of trust



The Red Queen Effect

“It takes all the running you can do, to keep in the same place.”
Lewis Carroll ‘Through the Looking-Glass’

Societal pressures

“Society solves societal dilemmas by making it in people’s best interest to act in the group interest.”

Many types of pressures: moral, reputational, institutional & security systems
These pressures work differently on different scales of society.

Societal pressures enforce cooperation and hold society together.

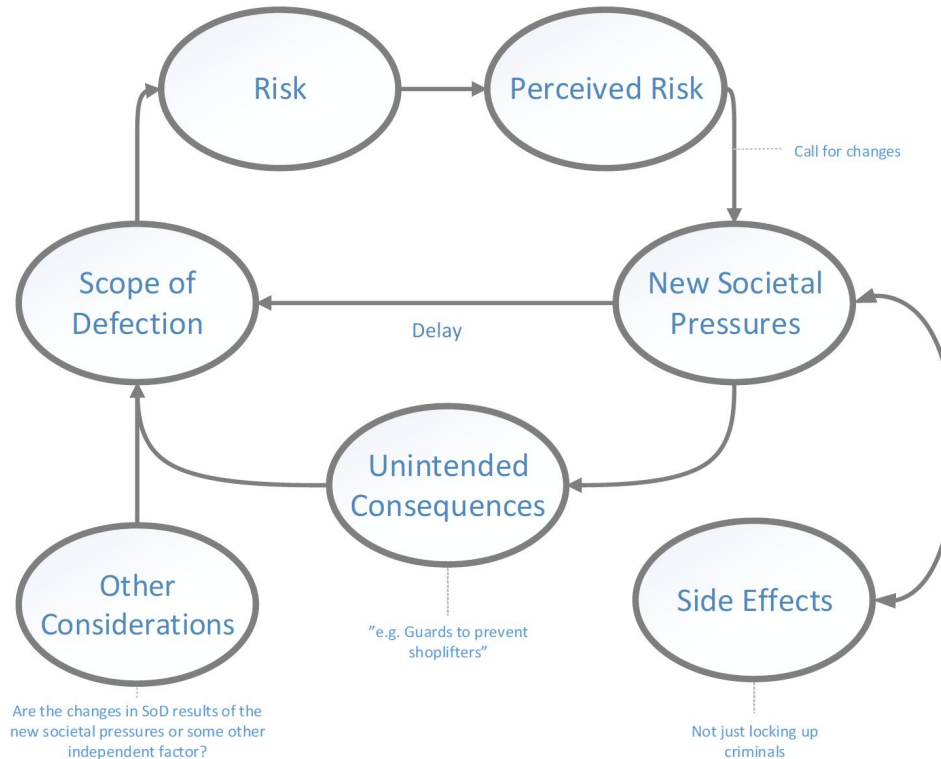
“Paradoxically, financial penalties intended to discourage harmful behavior can have the reverse effect.”

What is the best way to get everyone in a society to cooperate?

The Real World

- Competing Interest
- Organizations
- Corporations
- Institutions

How societal pressures fail



How societal pressures fail

- Misunderstanding the actor's reasons
 - Some of us simply don't want to play by the rules
- Misunderstanding the security interests
 - E.g. regulations to limit trash by charging by the bin => burn the trash
- Misunderstanding the risks
 - We, as humans, have natural biases
- Costs of cooperation can be perceived as too high?
 - E.g. helping the police to solve a crime takes up your time
- Increasing the incentive to defect
 - E.g. "No Child Left Behind Act" caused teachers to fake scores

Technological advancements and trust

- Technology has allowed “societies” to become larger
 - More people, more defectors, also: The Bad Apple Effect
- New systems, new ways to defect
 - More complexity, more flaws
- Technology makes defection easy
 - The security gap
- Social systems now vulnerable to technological attacks
 - E.g. electronic voting
 - Also: Our conversations, photographs, and other data in the hands of corporations

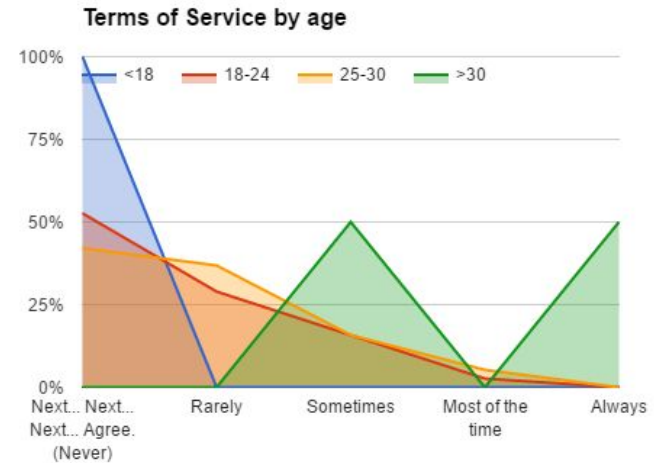
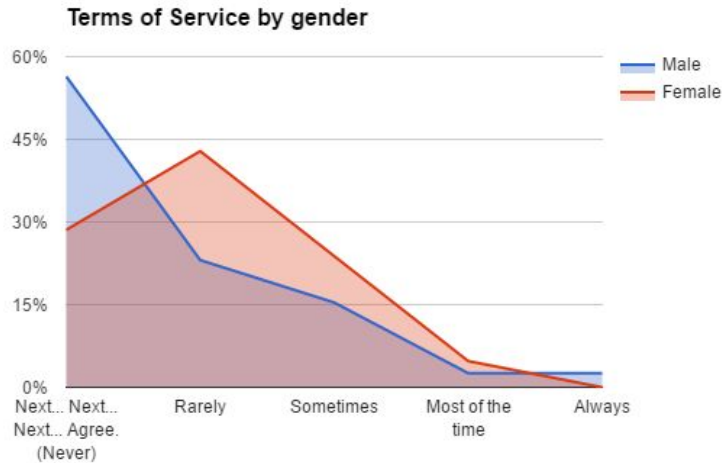
Conclusions

- Society can't function without trust
 - Reason why we developed formal societal pressures
- It's not possible to determine who to trust or even make a decision about everything
 - There are too many people we interact with
 - Even more interacted with indirectly (and who we never meet)
- Societal pressures help us trust people in general
 - It's better to just keep trusting and believing people
 - Even if sometimes trust is betrayed
 - It's easier and more comfortable to live, knowing* you can trust people

Conclusions

Survey on the topic of Terms of Service and Privacy Policy:

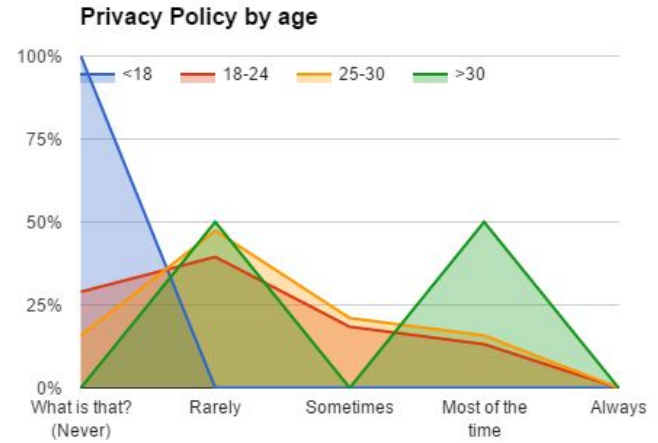
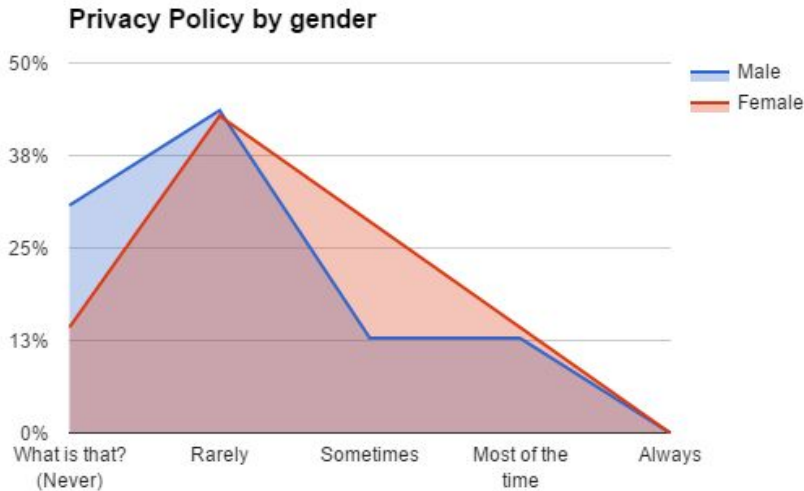
1. The majority of respondents do not read Terms of Service



Conclusions

Survey on the topic of Terms of Service and Privacy Policy:

2. The majority of respondents are somewhat concerned about their privacy



Questions?