

Access Control is an Inadequate Framework for Privacy Protection

Lalana Kagal & Hal Abelson
DIG @ CSAIL



Alternate Definitions of Privacy

- ◆ In 1890, Brandeis and Warren defined privacy as the “right to be let alone”
- ◆ In 1986, Alan Westin’s seminal work described privacy as the ability for people to determine for themselves “when, how, and to what extent, information about them is communicated to others”.
- ◆ The UN Declaration of Human Rights stipulates that “No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation”.

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information access

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information access

information usage

Privacy = Access Control ?

- ◆ What's wrong with Westin's perspective of privacy
 - People exchange sensitive information in return for better services online
 - Users are unable to grasp **privacy implications**
 - System is unable to prevent misuse of data after authorized access
 - Sensitive information can be inferred from public resources



Image courtesy <http://www.flickr.com/photos/sesh00/>

Gaydar: Facebook friendships
expose sexual orientation

by Carter Jernigan and
Behram F.T. Mistree

Image courtesy First Monday , <http://www.uic.edu>

Alternate Approach

- ◆ Brandeis and Warren perspective - focus on information usage
- ◆ Similar to how legal and social norms work in society
 - Signs and signals in human society describe expected/optimal behavior
 - Positive/negative consequences of violating/fulfilling the policy
 - Not always immediately enforceable - depends on type of policy and enforcement mechanism
 - Users can weigh pros & cons and decide best course of action



Image courtesy <http://commons.wikimedia.org/wiki/>

Possible Techniques to Investigate

- ◆ Give users due notice
 - Google dashboard etc.
- ◆ Support information accountability
 - provenance
 - machine understandable policies
 - policy tools (reasoners, user interfaces etc.)

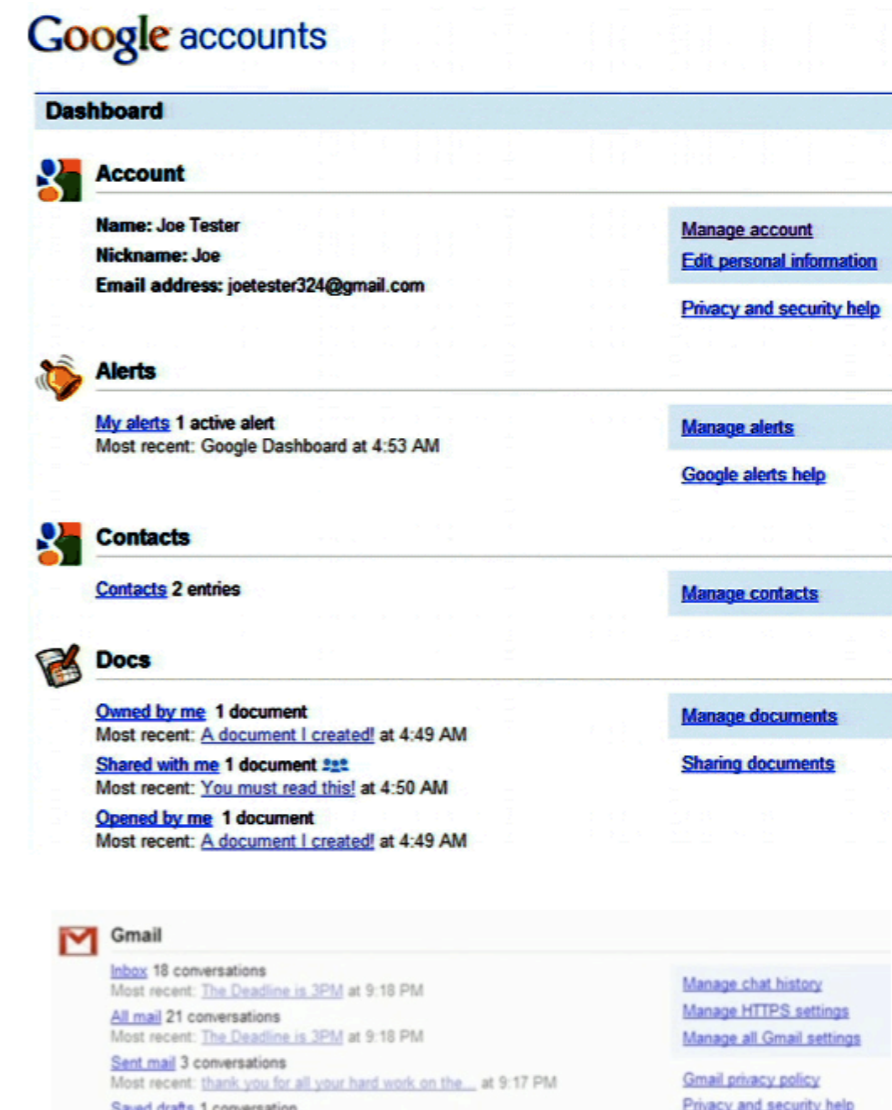


Image courtesy Google Blog

Possible Techniques to Investigate

◆ Privacy-enabling Interface Design

- Policy-awareness
- Privacy implications

- privacy nudges, Google Mail Goggles, *abvenance*



Image courtesy Creative Commons

Mail Goggles

It's that time of day. Gmail aims to help you in many ways. Are you sure you want to send this? Answer some simple math problems to verify.

69 - 38 =

11 x 2 =

37 + 19 =

2 x 5 =

48 - 38 =

43 seconds

Image courtesy Google Blog

Summary

- ◆ Future of privacy protection lies in ensuring responsible use of data !
- ◆ Items for discussion
 - Privacy = education + access control + usage control + regulation. Will this provide the privacy we require ?
 - Possible to have a completely technical solution to privacy ?
 - US vs EU privacy issues

References

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