Privacy notice and choice

Lorrie Faith Cranor
October 1, 2013

8-533 / 8-733 / 19-608 / 95-818: Privacy Policy, Law, and Technology
US government privacy reports

- U.S. FTC and White House reports released in 2012
- U.S. Department of Commerce multi-stakeholder process to develop enforceable codes of conduct
Privacy self regulation

Notice and Choice
Notice and choice

Protect privacy by giving people control over their information

Notice about data collection and use

Choices about allowing their data to be collected and used in that way
“In theory there is no difference between theory and practice. In practice there is.”

—Yogi Berra
How effective is privacy notice and choice **in practice**?
Global Privacy Enforcement Network
Internet Privacy Sweep Questions and Answers

May 6, 2013

What will happen during the Internet Privacy Sweep? What is the goal?

Privacy enforcement authorities participating in the Sweep will designate individuals within their organizations to search the Internet in a coordinated effort to assess privacy practices related to a predetermined theme – this year the theme is Privacy Practice Transparency.

The Sweep will provide flexibility for privacy enforcement authorities to tailor their search within this common theme to focus on issues that are relevant in the context of domestic legislation, market factors and strategic priorities.

The purpose of the Sweep is not to conduct an in-depth analysis of the privacy practice transparency of each website, but to replicate the consumer experience by spending a few minutes per site checking for performance against set common indicators.

The Sweep is not an investigation, nor is it intended to conclusively identify
Nobody wants to read privacy policies

“the notice-and-choice model, as implemented, has led to long, incomprehensible privacy policies that consumers typically do not read, let alone understand”

Cost of reading privacy policies

• What would happen if everyone read the privacy policy for each site they visited once each month?
  
  • Time = 244/hours year
  
  • Cost = $3,534/year
  
  • National opportunity cost for time to read policies: $781 billion

Privacy Icons

http://www.azarask.in/blog/post/privacy-icons/
Smartphone App Privacy Icon Study Conducted for LifeLock, Inc. by Cranor et al., 2013
Towards a privacy “nutrition label”

- Standardized format
  - People learn where to find answers
  - Facilitates policy comparisons
- Standardized language
  - People learn terminology
- Brief
  - People find info quickly
- Linked to extended view
  - Get more details if needed
Iterative design process

- Series of studies
  - Focus groups
  - Lab studies
  - Online studies

- Metrics
  - Reading-comprehension (accuracy)
  - Time to find information
  - Ease of policy comparison
  - Subjective opinions, ease, fun, trust

A “Nutrition Label” for Privacy. SOUPS 2009.

Privacy label for Android

**WORD WEASEL**

*concreterose*

**Privacy score**

- **793**
- 10,000+ downloads
- 1.9MB

**DESCRIPTION**

Like word games? Like weasels? This is the game for you. **Word Weasel** is a fast word game where you find as many words as you can from 9 letters in 50 seconds. Compete with everyone else playing at the same time, a new game starts every minute!

"The most fun you can have on your own with 9 random letters. Brilliantly simple, devilishly addictive." —Kim, Android Market

**Privacy Facts**

- **AD**
- Personal information
- Location
- Calendars
- Photos

**REVIEWs**

- Average **4.6**
- 5 stars **793**
- 4 stars **534**
- 3 stars **210**
- 2 stars **37**
- 1 star **7**

Ad supported, with ability to upgrade to ad-free full version in game.

Uses the SOWPODS word list containing 100,000+ words. They may be obscure, but yes those are words!
Role play studies

• Task for participants in lab or online
  – Select apps for friend with new Android phone
  – Choose from 2 similar apps w/ different permission requests in each of 6 categories
  – Click on app name to visit download screens

• Post-task questionnaire

• Participants who saw Privacy Facts more likely to select apps that requested fewer permissions
  – Other factors such as brand and rating reduce effect

P.G. Kelley, L.F. Cranor, and N. Sadeh. Privacy as part of the app decision-making process. CHI 2013.
Let your computer read for you

- Platform for Privacy Preferences (P3P)
- W3C specification for XML privacy policies
  - Proposed 1996
  - Adopted 2002
- Optional P3P compact policy HTTP headers to accompany cookies
- Lacks incentives for adoption
P3P in Internet Explorer

• P3P implemented in IE 6, 7, 8, 9, 10 …

• Default privacy setting
  – Rejects third-party cookies without a CP
  – Rejects unsatisfactory third-party cookies
No P3P syntax checking in IE

- IE accepts P3P policies containing bogus tokens or missing required tokens
- Example of valid compact policy:
  
  ![rockyou](https://example.com/rockyou.png)

  CAO DSP COR CURRE ADMA DEVOur IND PHY ONL UNI COM NAV INT DEM PRE

- Examples of invalid policies accepted by IE:
  
  ![amazon](https://example.com/amazon.png)

  AMZN

  Facebook does not have a P3P policy. Learn why here: [http://fb.me/p3p](http://fb.me/p3p)

Microsoft uses a “self-declaration” protocol (known as “P3P”) dating from 2002 …. It is well known – including by Microsoft – that it is impractical to comply with Microsoft’s request while providing modern web functionality.
Do not track

- Proposed W3C standard
- User checks a box
- Browser sends “do not track” header to website
- Website stops “tracking”
- W3C working group trying to define what that means
Lots of tools to stop tracking

• Browser privacy settings
  – Cookie blocking
  – P3P
  – Tracking Protection Lists
  – Do Not Track

• Browser add-ons

• Opt-out cookies

• Digital Advertising Alliance (DAA) AdChoices icon and associated opt-out pages
Are any of these tools effective?

• Do the tools work?
  – Does technology do what it is supposed to do?
  – Do companies respect user choices?

• Can consumers use them?
  – Do users understand tracking?
  – Do users understand what tools do?
  – Can users make tools do what they want?

Pedro G. Leon, Blase Ur, Rebecca Balebako, Lorrie Faith Cranor, Richard Shay, and Yang Wang

CHI 2012
Three types of tools tested

<table>
<thead>
<tr>
<th>Blocking Tools</th>
<th>Opt-out Tools</th>
<th>Privacy built in browser</th>
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<tbody>
<tr>
<td>AdBlock Plus</td>
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Methodology

- Part of previous interview study
- 45 participants evaluated 9 tools
  - Between subjects study
  - Random assignment, controlled for preferred web browser and operating system
Testing protocol

- Semi-structured interview
- Usability testing
  - Task 1: Learn about and install the tool
  - Task 2: Change tool settings
  - Task 3: Browsing scenarios
- Exit questionnaire
DAA website

Welcome to the online home of the Self-Regulatory Program for Online Behavioral Advertising.

Building on the Self-Regulatory Principles for Online Behavioral Advertising (Principles) released in July 2009, the nation’s largest media and marketing associations have come together to launch this Program, which gives consumers a better understanding of and greater control over ads that are customized based on their online behavior (also called “interest-based” advertising).

Our participating companies share a commitment to delivering consumers a robust and credible Program of notice and choice for online behavioral advertising, and to enhancing consumer confidence in the online medium.

For Consumers

Learn about Online Behavioral Advertising: If you’re an online user, you can find out more about online behavioral advertising and how it helps provide you with more relevant advertising on the websites you visit. You’ll learn how online advertising supports the free content, products and services you use online; what choices you have; and how to use browser controls to enhance your privacy.

Exercise Your Choice: You can now visit the beta version of the Program’s Consumer Opt Out Page, which allows users to...
Opting out can be challenging.
Ghostery configuration interface

Performance Options
- Scan and block images served off the matched tracker domain
- Scan and block iframes served off the matched tracker domain
- Scan and block embed and object tags served off the matched tracker domain
- Look for and prevent redirection from known trackers
- Scan for dynamically inserted page elements

Blocking Options
- Enable web bug blocking
- Enable cookie protection [experimental]

659 bugs & 396 cookies (click for more info)

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<thead>
<tr>
<th>24/7 Real Media</th>
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IE-TPL configuration interface
Takeaways

- Problematic defaults
- Poorly designed interfaces and jargon
- Feedback
- Misconceptions about opt-out tools
- Users unable to make meaningful decisions on a per-company basis
What Do Online Behavioral Advertising Disclosures Communicate to Users?

Pedro Giovanni Leon, Justin Cranshaw, Lorrie Faith Cranor, Jim Graves, Manoj Hastak, Blase Ur, and Guzi Xu. WPES 2012
The industry claims total success

“The DAA has revolutionized consumer education and choice by delivering a real-time, in-ad notice more than 10 billion times every day through the increasingly ubiquitous DAA Advertising Option Icon (also known as the ‘Ad Choices’ Icon)”

Objectives

• Evaluate the effectiveness of different OBA disclosures at communicating notice and choice about OBA

• Find ways to improve effectiveness of OBA disclosures
Methodology

• Large scale between-subjects online study
  – 1,505 participants
  – Over 100 participants per treatment

• Participants recruited through Amazon Mechanical Turk

• Guided browsing scenario

• Online survey
First exposure to OBA disclosures
Second exposure to OBA disclosures

- Why did I get this ad?
- Interest based ads
- AdChoices
- Sponsor ads
- Learn about your ad choices
- Configure ad preferences
- ‘No tagline’
Exposure to landing pages

- AOL
- Yahoo!
- Microsoft
- Google
- Monster
Do icons and taglines suggest tailored ads?

- To what extent, if any, does this combination of the symbol and phrase, placed on the top right corner of the above ad suggest the following?
  - This ad has been tailored based on websites you have visited in the past. [true]
This ad has been tailored based on websites you have visited in the past

- **Why did I get this ad?**: 80%
- **Interest based ads**: 68%
- **Learn about your ad choices**: 66%
- **Configure ad preferences**: 58%
- **AdChoices**: 58%
- **Blank**: 34%
- **Sponsor Ads**: 26%

- **Definitely not**
- **Probably not**
- **Not sure**
- **Probably**
- **Definitely**
Willingness to click

• What do you think would happen if you click on that symbol or that phrase?
  – It will take you to a page where you can tell the advertising company that you do not want to receive tailored ads. [true]
  – More ads will pop up. [false]
  – It will take you to a page where you can buy advertisements on this website. [false]
Will take you to a page where you can tell the advertising company that you do not want to receive tailored ads

- Configure ad preferences: 50% Definitely or Probably
- Learn about your ad choices: 34% Definitely or Probably
- Why did I get this ad?: 28% Definitely or Probably
- AdChoices: 27% Definitely or Probably
- Blank: 20% Definitely or Probably
- Interest based ads: 17% Definitely or Probably
- Sponsor Ads: 16% Definitely or Probably

- Definitely not
- Probably not
- Not sure
- Probably
- Definitely
Will take you to a page where you can buy advertisements on this website.
More ads will pop up

- Configure ad preferences: 42%
- Why did I get this ad?: 46%
- Learn about your ad choices: 51%
- AdChoices: 56%
- Interest based ads: 57%
- Blank: 57%
- Sponsor Ads: 63%

- Definitely not
- Probably not
- Not sure
- Probably
- Definitely
Takeaways

• OBA icons and taglines are not noticed
• “AdChoices” was outperformed by other tagline treatments at communicating notice and choice about OBA
• Users are afraid to click on icon
How effective is privacy notice and choice in practice?
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<th>Effectiveness in Practice</th>
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<td>Model financial privacy notice</td>
<td>Adopted by thousands of websites, could be more useful with directory</td>
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How to make notice and choice more effective

• Incentives for adoption
• Enforcement (legal and technical)
• Baseline requirements
• Standardized notice formats

• Machine-readable notice formats
• Reduce ambiguity
• Link to full disclosure
• Comparison tools
• More research