2016 International Workshop on Privacy Engineering – IWPE '16
Tools in support of privacy engineering methodologies

Tools for privacy communications

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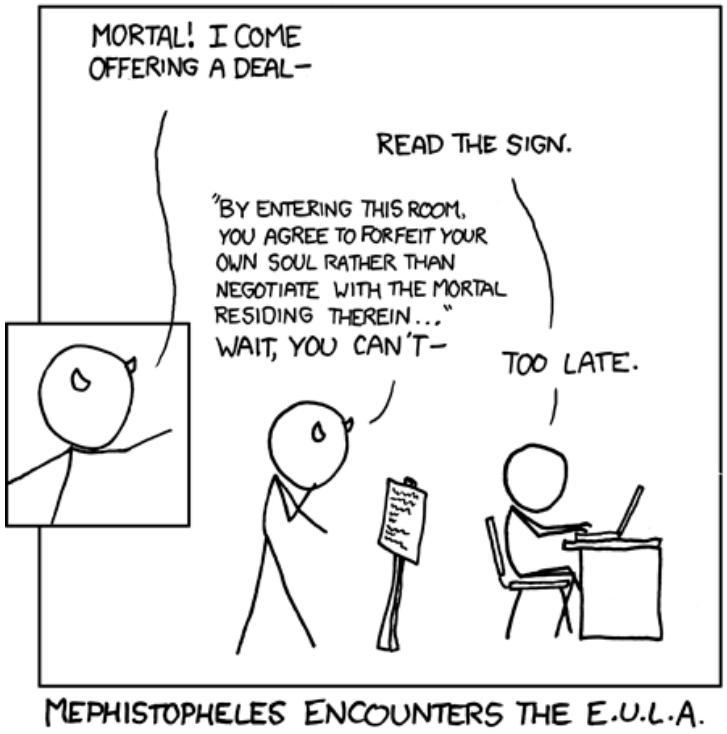
Privacy Communications, Part I

Privacy Polices

The big idea: reduce information asymmetries to support optimal privacy via self-regulation



Privacy Policies: Impractical

- To skim just first party privacy policies per year
  - 154 hours per person
  - 34 billion hours nationally
  - About the same as time spent surfing the web
- Value of time estimates
  - $2,200 per person
  - $492 billion nationally
  - More than spent on broadband connections

With L. F. Cranor. The Cost of Reading Privacy Policies. *I/S: A Journal of Law and Policy for the Information Society* (2008).

Privacy Policies: Incomprehensible

- 9 basic questions, 6 policies
  - Mturk
  - Law & public policy grad students
  - Privacy Experts
- Within groups, Mturk and Expert agreement was moderate; student agreement substantial (Fleiss' Kappa statistical test)
- Mturk far off from the experts for financial data (40% median level of agreement with experts)
- Where policies were silent, experts interpret a practice is permitted; students say unclear
- If a policy claims a company "may" engage a practice, experts see it as permitted and students split

Reidenberg, Joel R., Breaux, T. D., Cranor, L. F., French, B., Grannis, A., Graves, J. T., Liu, F., McDonald, A. M., Norton, T. B., Ramanath, R., Russell, R. C., Sadeh, N., and Schaub, F. Disagreeable Privacy Policies: Mismatches Between Meaning and Users' Understanding. *Berkeley Technology Law Journal*, 30(1), May 2015, 39-88.

Blobs of Text Are Not Designed for Web-scale Tools

- Step 0: *find* the privacy policy
- Could do natural language processing…
- …if humans could agree on gold standard truth!
- Hard to innovate for automated tools to help users navigate privacy policies
- So instead, we mess with the formats

Many Years Spent on Attempted Solutions

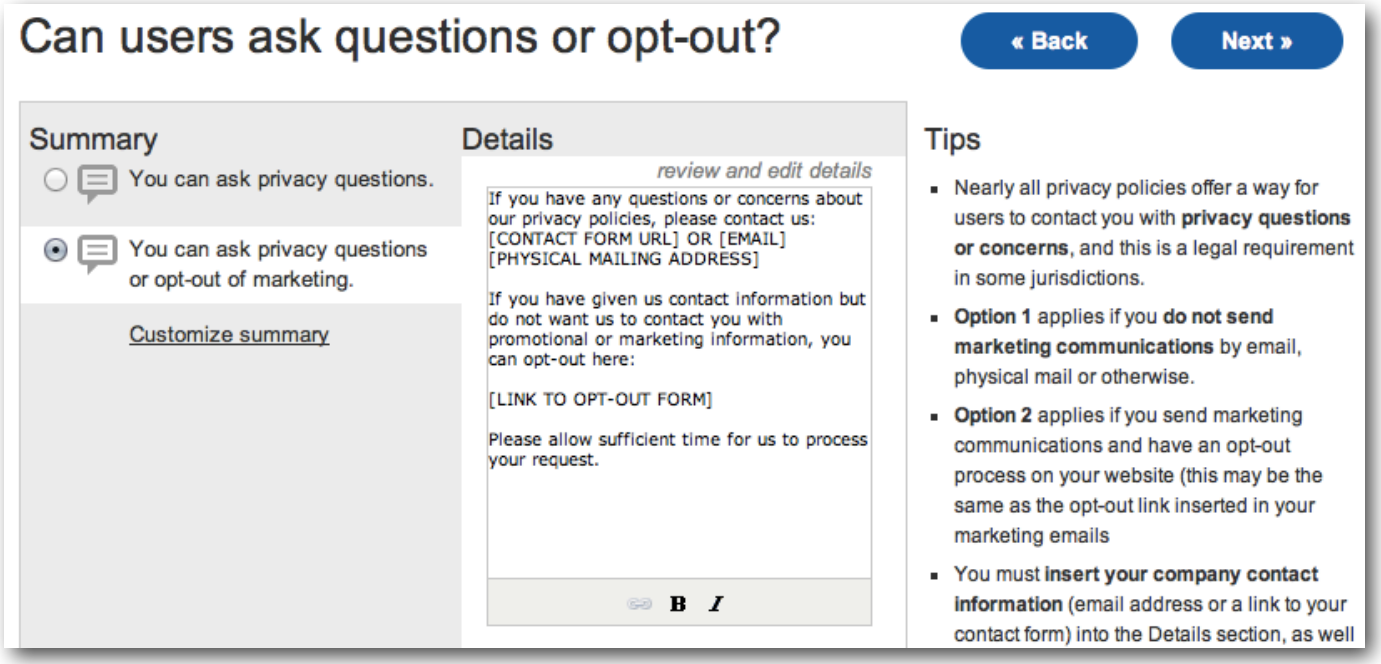
- Privacy policies as icons; “creative commons for privacy”
- Privacy policies as XML (P3P / compact P3P / Privacy Bird)
- Seals from TRUSTe and Better Business Bureau
- Layered policies
- Nutrition labels for privacy are great, but missing data

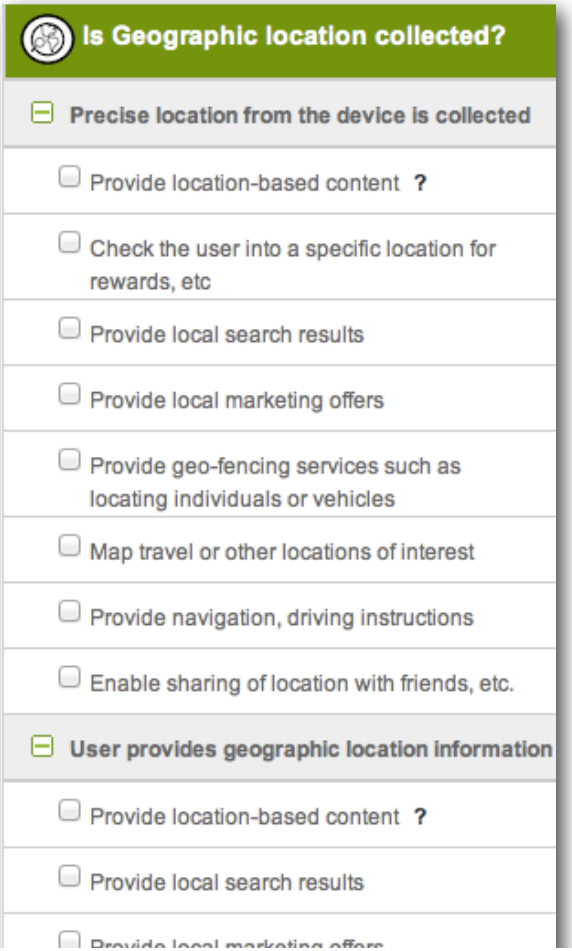
One problem: companies have no incentive to be clear

Mobile Policy Tools

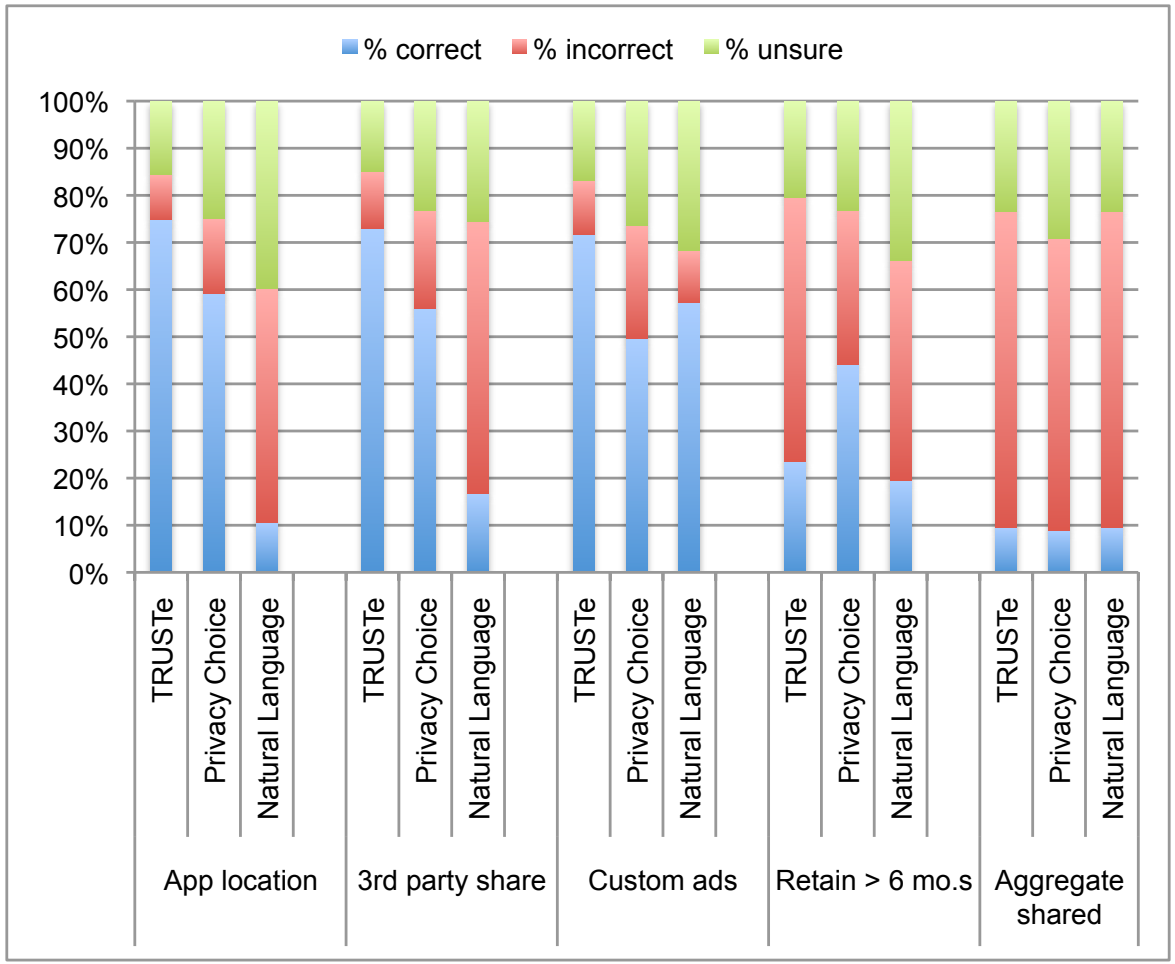
privacy choice

TRUSTe



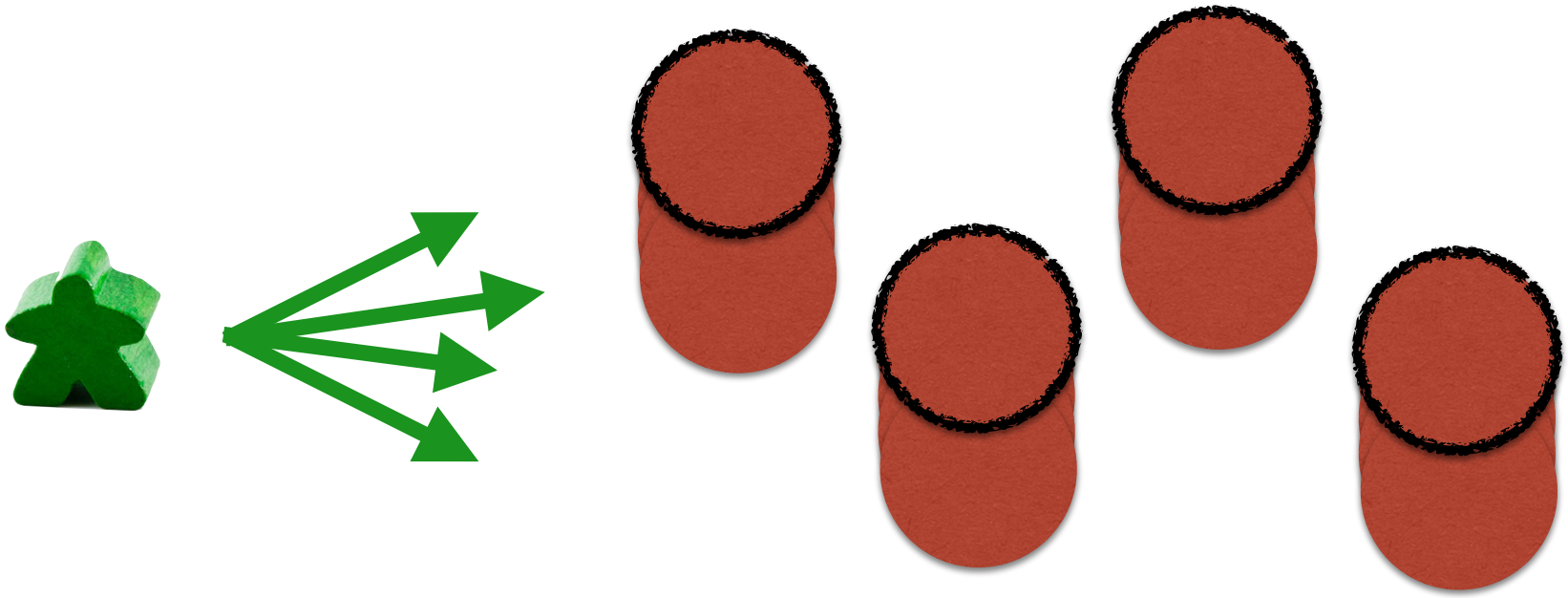


Decent for Basics



McDonald, A. M., and Lowenthal, T. Nano-Notice: Privacy Disclosure at a Mobile Scale. *Journal of Information Policy*, Vol. 3 (2013), pg. 331-354.

Privacy Communications, Part II

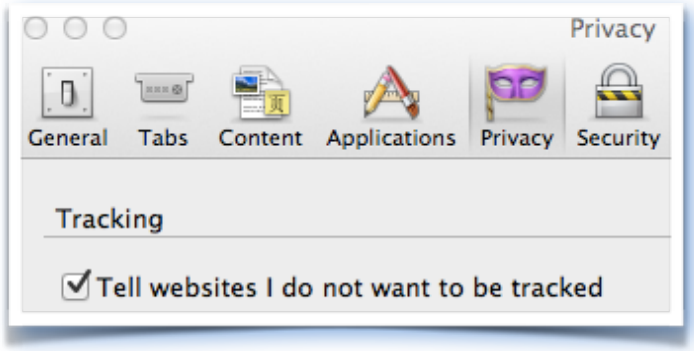


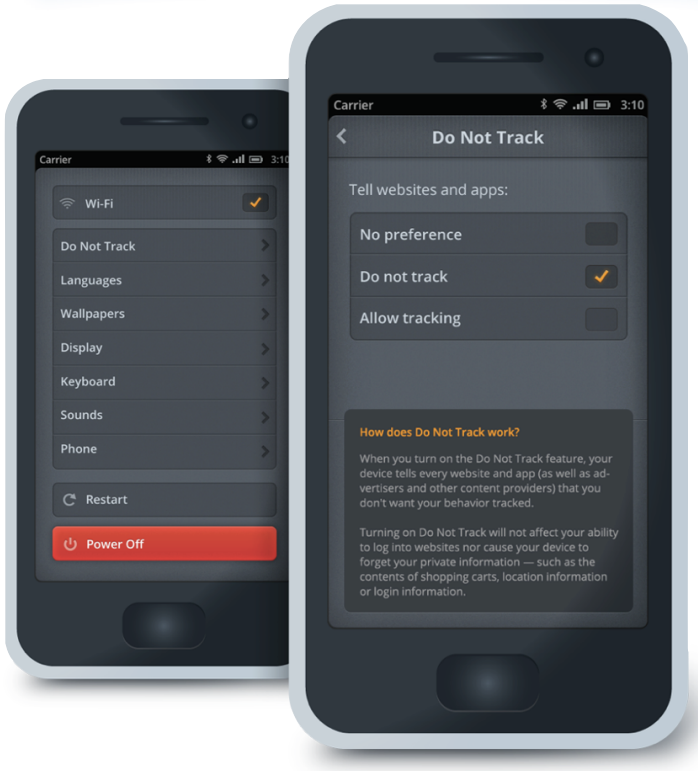
Do Not Track: A Polite Request for Privacy

All major browsers let users send a DNT request

Technically simple: HTTP header

Modest server-side implementation. Most user DNT requests just ignored.





Do Not Track for EU?

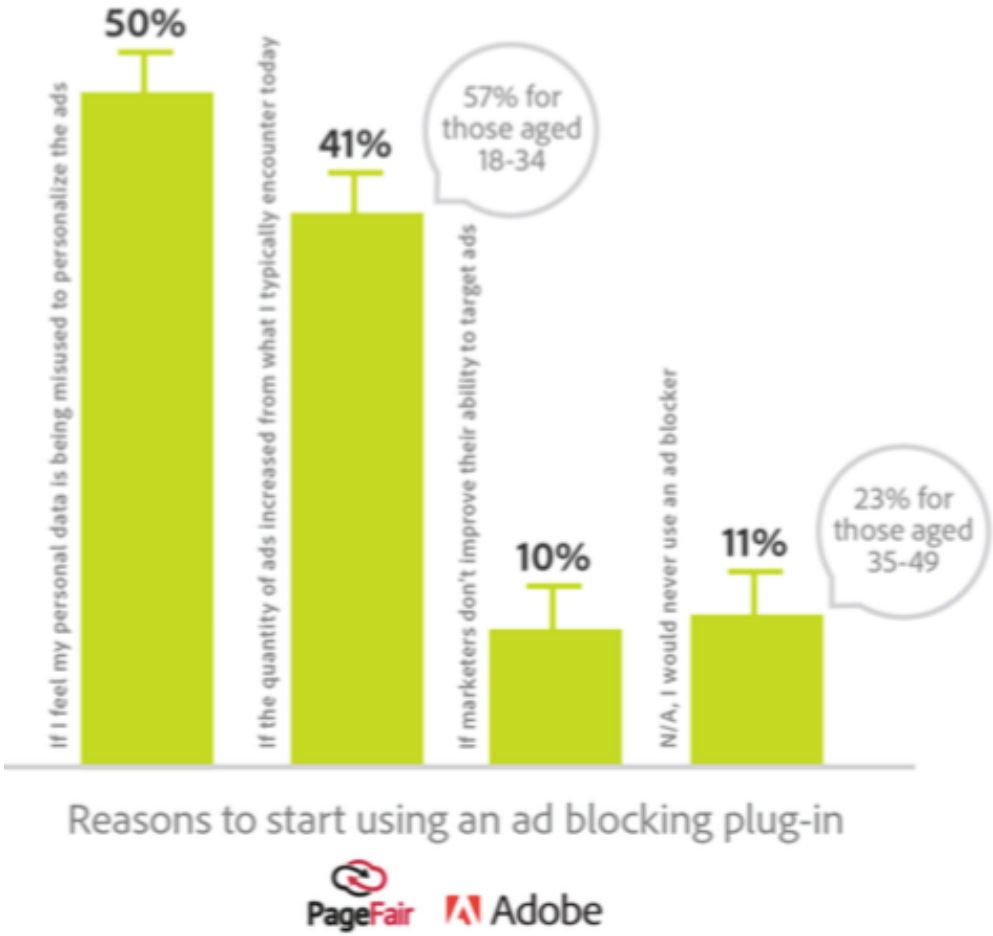
Requirement	DAA Opt Out	W3C DNT	EFF DNT alone	EFF DNT & Privacy Badger | Disconnect | AdBlock
Consent by opt in?	No	Yes (varies by country)	No	Yes
Limits PII collection?	Maybe (varies by company)	Maybe (varies by company)	Yes	Yes
Consent before cookies set?	No	Yes	Yes	Yes
Can revoke?	Yes	Yes	Yes	Yes
Meets all 4	**X**	**?**	**X**	**✓**

Zuiderveen Borgesius, F. J., and McDonald, A. M. (2015). Do Not Track for Europe. *43rd Research Conference on Communication, Information and Internet Policy (Telecommunications Policy Research Conference)* September 26, 2015.

Ad Blockers: When "Please" Has Failed

- Most users are ok with ads for free content, not ads + data

(McDonald, A. M., and Cranor, L. F. Americans' Attitudes About Internet Behavioral Advertising Practices. Proceedings of the 9th Workshop on Privacy in the Electronic Society (WPES) October 4, 2010.)

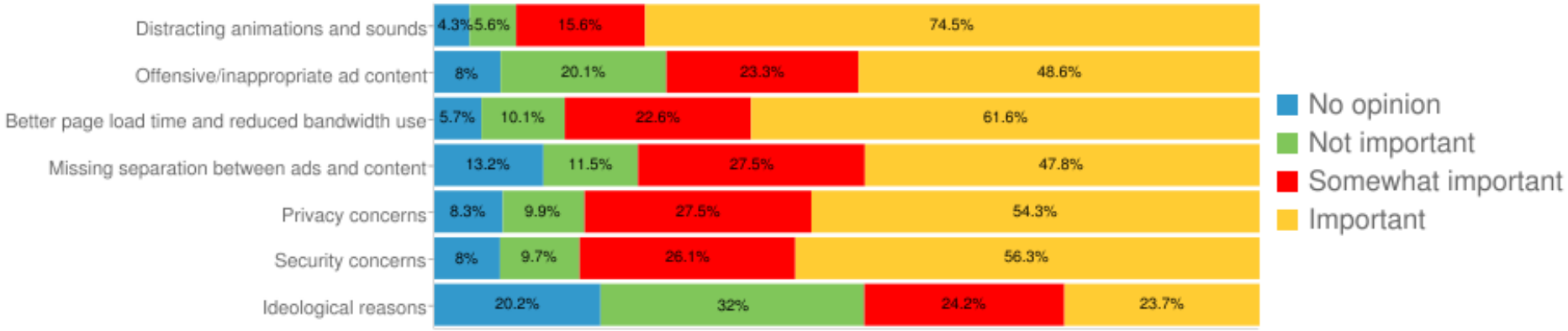


Of people *not* ad blocking, what would change their minds?

- 50% - personal data misused to personalize ads
- 41% - quality of ads increased
- 10% - marketers don't improve targeting
- 11% - N/A, would never install

Adobe and PageFair, The Cost of Ad Blocking (2015). <https://downloads.pagefair.com/wp-content/uploads/2016/05/2015_report-the_cost_of_ad_blocking.pdf>

Ad Blockers: When "Please" Has Failed



Of people who use AdBlock Plus, why? Important or somewhat important:

- 90% - distracting animations / sounds
- 84% - better page load time / reduced bandwidth
- 82% - security concerns
- 82% - privacy concerns
- 75% - missing separation between ads and content
- 72% - offensive / inappropriate ad content
- 48% - ideological reasons

Wladimir Palant, Adblock Plus user survey results [Part 2], November 7, 2011 <https://adblockplus.org/blog/adblock-plus-user-survey-results-part-2>

Wrap Up

- Consent underpins EU law, yet we have pretty poor privacy communications in both directions between companies and users
- We can do better!
  - Not intractable
  - Tools must be usable for engineers, and usable for users
  - Standards would help; role for regulators & laws