

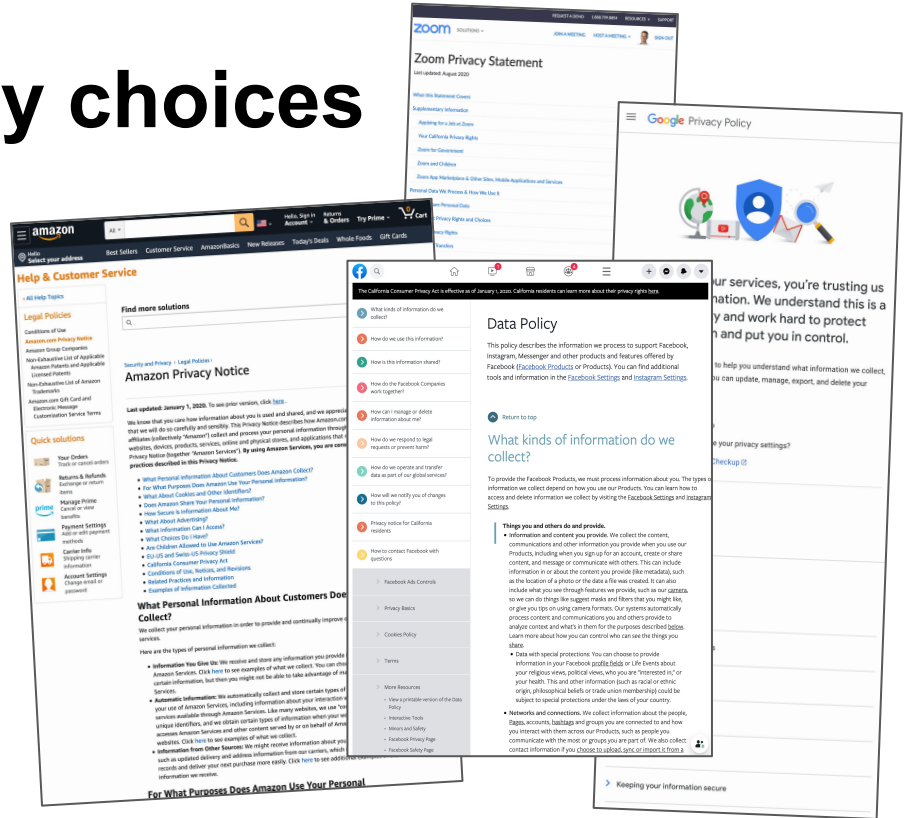
ACM CHI | May 8-13, 2021

Toggles, Dollar Signs, and Triangles: How to (In)Effectively Convey Privacy Choices with Icons and Link Texts

Hana Habib*, Yixin Zou*, Yaxing Yao, Alessandro Acquisti,
Lorrie Faith Cranor, Joel Reidenberg, Norman Sadeh, Florian Schaub

Problems with privacy choices

- ❌ Difficult to find
- ❌ Spread out across services
- ❌ Inconsistent options



An empirical analysis of data deletion and opt-out choices on 150 websites. Hana Habib, Yixin Zou, Aditi Jannu, Neha Sridhar, Chelse Swoopes, Alessandro Acquisti, Lorrie Faith Cranor, Norman Sadeh, Florian Schaub. SOUPS 2019.

“It’s a scavenger hunt”: Usability of Websites’ Opt-Out and Data Deletion Choices. Hana Habib, Sarah Pearman, Jiamin Wang, Yixin Zou, Alessandro Acquisti, Lorrie Faith Cranor, Norman Sadeh, Florian Schaub. CHI 2020.

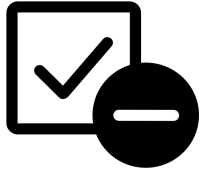
The California Consumer Privacy Act (CCPA)

“A business that sells the personal information of a consumer shall provide a **notice of right to opt-out** to the consumer...”

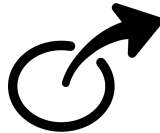
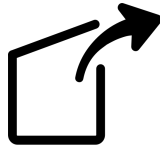
“The following **opt-out button or logo** may be used in addition to posting the notice of right to opt-out...
[button or logo to be added]”

Icon evaluation

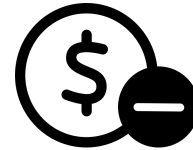
Choice



Opting out

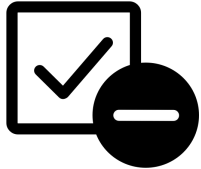


Do not sell personal info

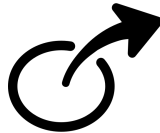
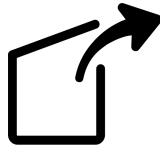


Icon evaluation

Choice



Opting out

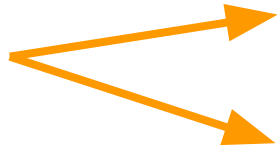
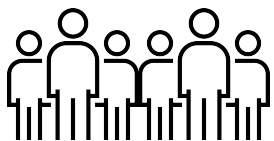


Do not sell personal info

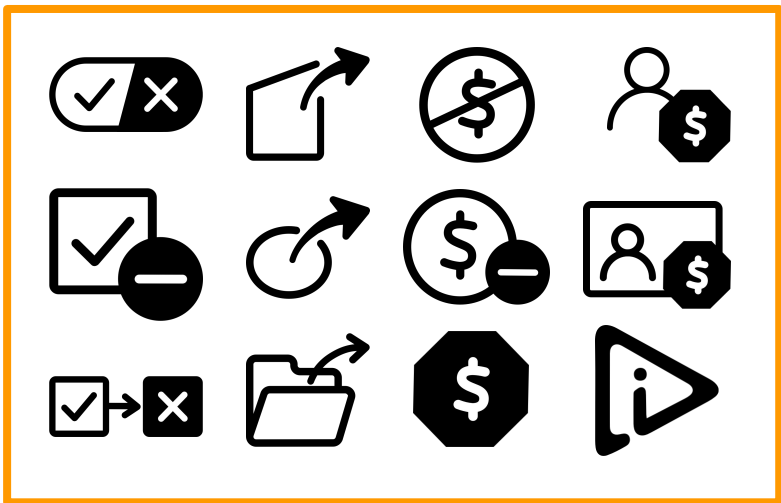


DAA Privacy
Rights

random
assignment



Do Not Sell My Personal Information



Select the icon that best conveyed

- Privacy choices
- Do-not-sell choices

stylized-toggle



Generated the fewest misconceptions

DAA



Misinterpreted as a play / more info button

slash-dollar



“Money-related” when without text, but preferred as a do-not-sell icon

stop-dollar



ID-card



Link text evaluation

Do Not Sell My Personal Information

Do Not Sell My Info

Don't Sell My Info

Do Not Sell

Don't Sell

Do-Not-Sell Choices

Do-Not-Sell Options

Do-Not-Sell Opt-Outs

Privacy Choices

Privacy Options

Privacy Opt-Outs

Personal Info Choices

Personal Info Options

Personal Info Opt-Outs

Do Not Sell My Info Choices

Do Not Sell My Info Options

Icon-link text evaluation

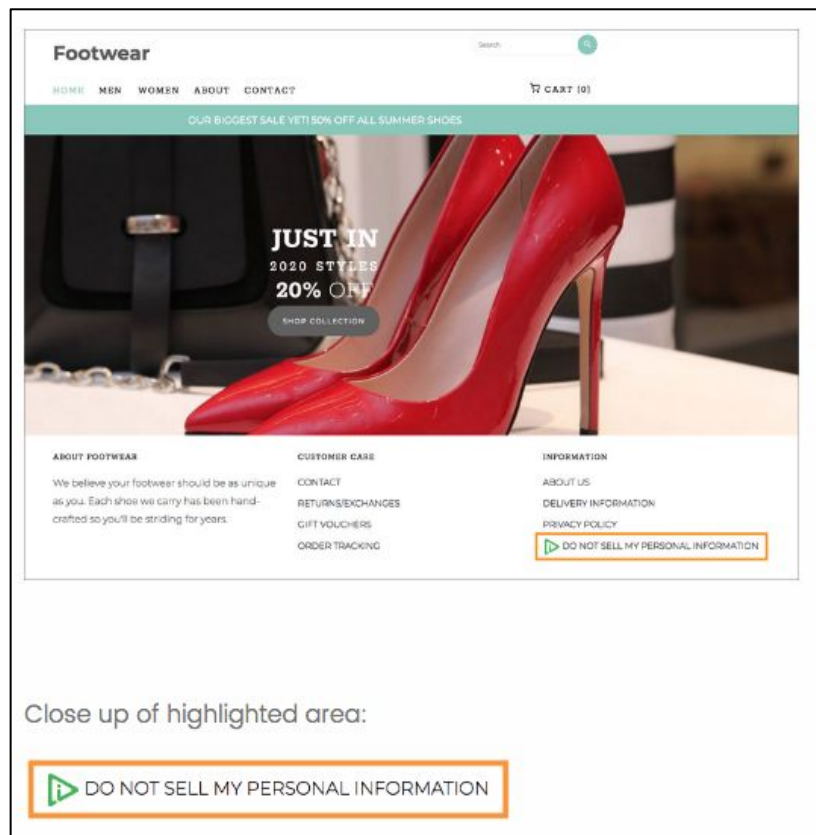
3 icons + no icon



5 link texts + no link text

- Do not sell my personal information
- Do not sell my info
- Privacy choices
- Privacy options
- Personal info choices

23 combinations evaluated by 1,468
MTurk participants



Footwear

HOME MEN WOMEN ABOUT CONTACT

CART (0)

OUR BIGGEST SALE YET! 50% OFF ALL SUMMER SHOES

JUST IN
2020 STYLES
20% OFF
SHOP COLLECTION

ABOUT FOOTWEAR
We believe your footwear should be as unique as you. Each shoe we carry has been hand-crafted so you'll be striding for years.

CUSTOMER CARE
CONTACT
RETURNS/EXCHANGES
GIFT VOUCHERS
ORDER TRACKING

INFORMATION
ABOUT US
DELIVERY INFORMATION
PRIVACY POLICY
DO NOT SELL MY PERSONAL INFORMATION

Close up of highlighted area:

DO NOT SELL MY PERSONAL INFORMATION

Icon-link text evaluation

Link texts had primary influence on interpretations; some icons continued to convey misconceptions.

**Best combo for
privacy choices**



+

“Privacy Options”

**Best combo for
do-not-sell choices**

Most icons / no icon

+

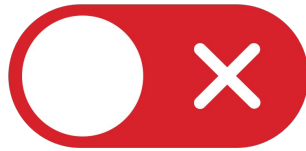
“Do Not Sell My Personal Information” /
“Do Not Sell My Info”

OAG icon evaluation

Our stylized
toggle icon



The OAG's
proposed icon



iOS toggle switch



OAG icon evaluation

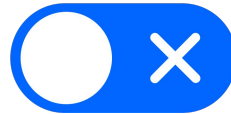
Stylized toggle...

- better conveyed do-not-sell choices.
- less likely to be interpreted as an actual toggle.

Stylized toggle
(blue)



The OAG's
toggle (blue)



Stylized toggle
(red)



The OAG's
toggle (red)



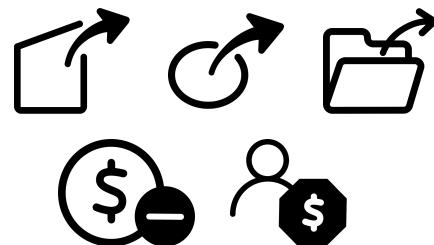
Design implications

Privacy icons should aim to represent **simple** and **familiar** concepts.

Use link texts to aid comprehension.



Privacy Options



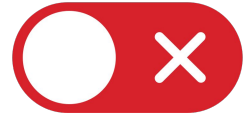
Policy implications

Even **small changes** can make a **big difference**.

Our stylized
toggle



The OAG's
toggle



Integrate user testing into policymaking to provide usable controls for consumers.

Attorney General Becerra Announces Approval of Additional Regulations That Empower Data Privacy Under the California Consumer Privacy Act



Authors: **Hana Habib***, **Yixin Zou***, Yaxing Yao, Alessandro Acquisti, Lorrie Faith Cranor, Joel Reidenberg, Norman Sadeh, Florian Schaub.

Research papers & reports: cups.cs.cmu.edu/optout

CCPA Privacy Options icon: oag.ca.gov/privacy/ccpa/icons-download