Building privacy-conscious projects

Heather Burns // Smashing Freiburg // 10 September 2019

What you will learn today

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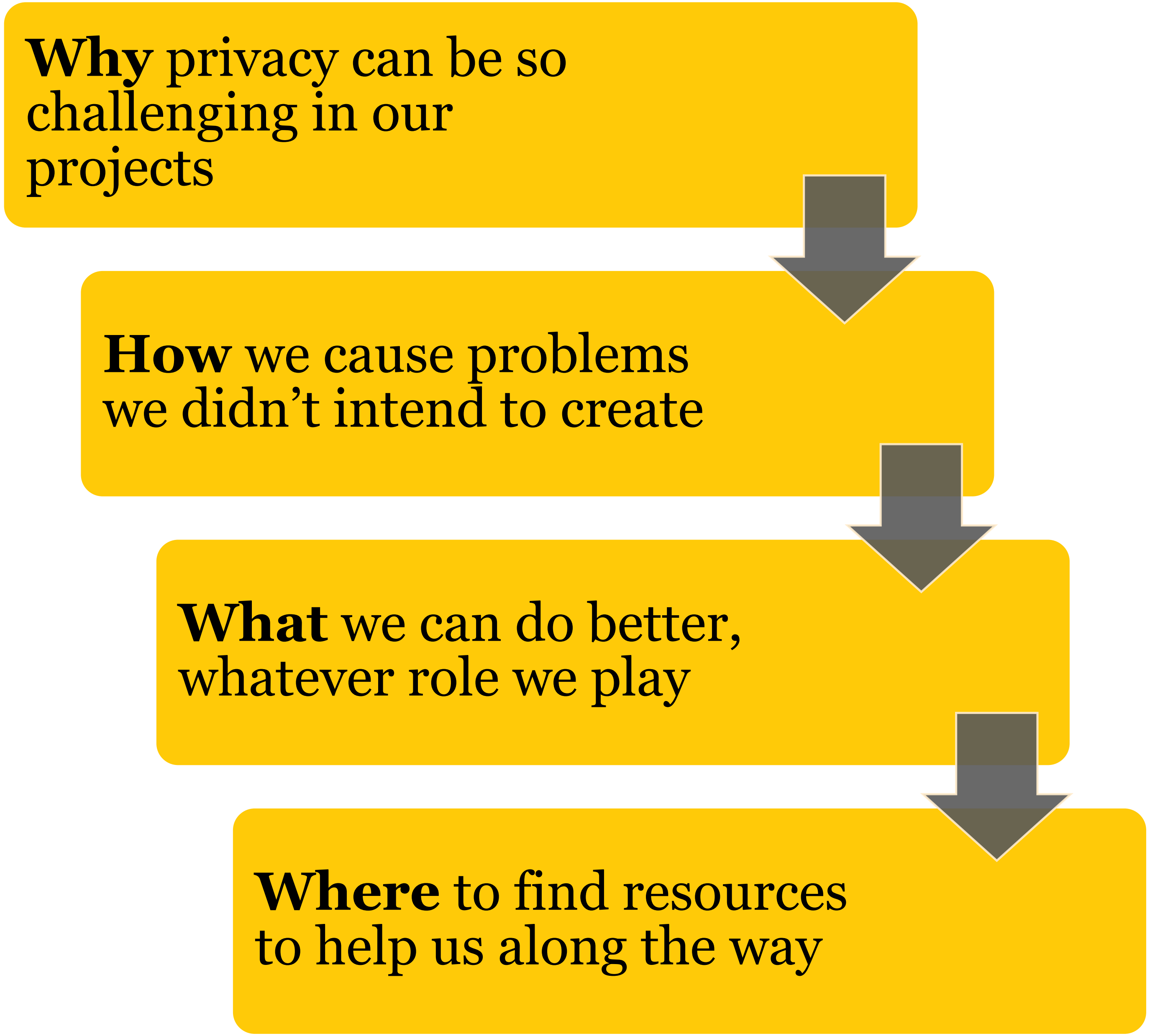

Why privacy can be so challenging in our projects

How we cause problems we didn’t intend to create

What we can do better, whatever role we play

Where to find resources to help us along the way

What you will do with what you learn

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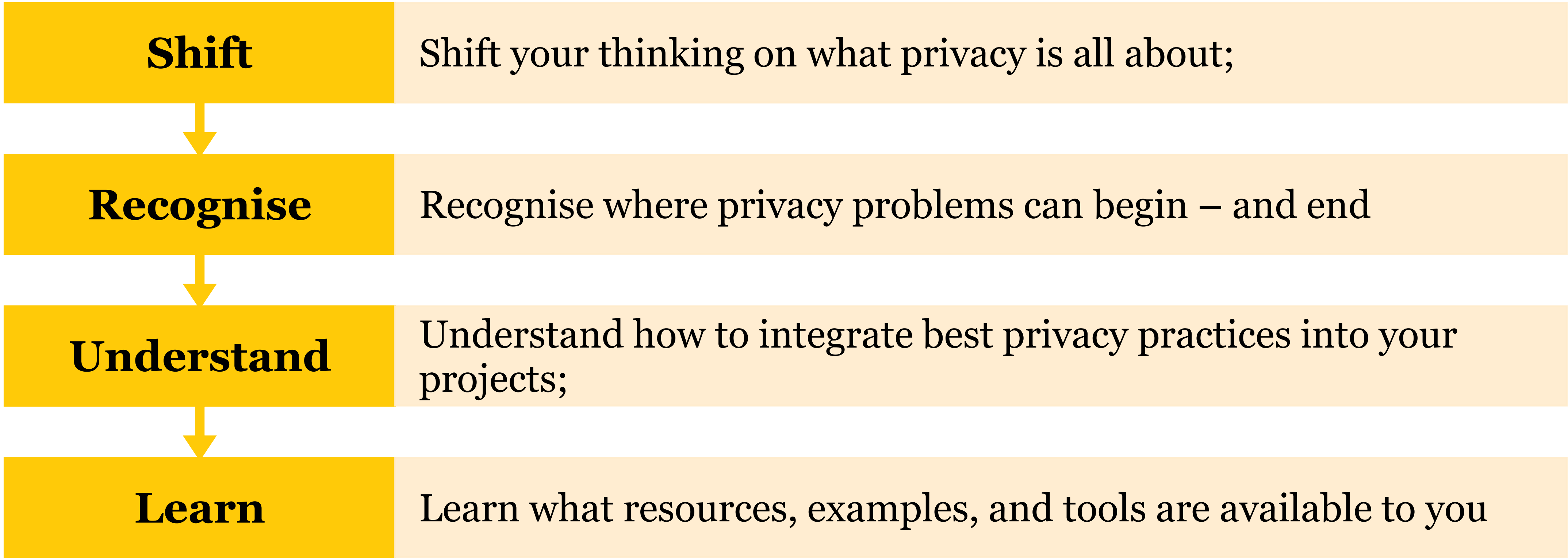


Shift

Shift your thinking on what privacy is all about;

Recognise

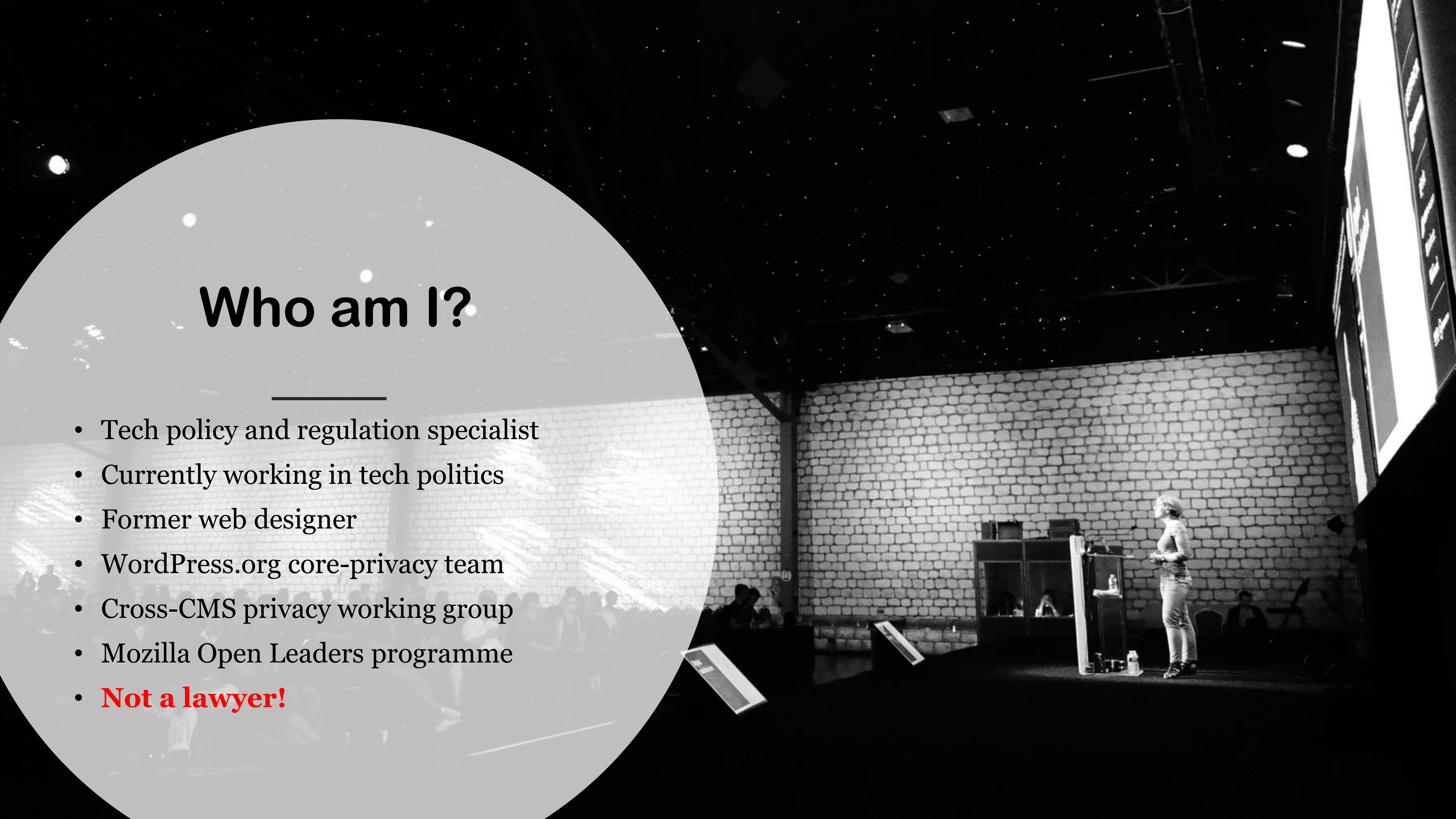
Recognise where privacy problems can begin – and end

Understand

Understand how to integrate best privacy practices into your projects;

Learn

Learn what resources, examples, and tools are available to you



Who am I?

- Tech policy and regulation specialist
- Currently working in tech politics
- Former web designer
- WordPress.org core-privacy team
- Cross-CMS privacy working group
- Mozilla Open Leaders programme
- **Not a lawyer!**

Have you ever asked yourself “how did we get here?”

(and I don’t mean 2 buses, 3 airports, 2 planes, 3 trains, and a rail replacement bus)

What everyone in this room thinks the web is about

What everyone outside this room* thinks the web is about

- Analytics and tracking
- Corporate surveillance
- Government surveillance
- iOT and domestic surveillance
- Social media abuse
- Electoral interference
- Trolling/harassment/abuse
- Racism/authoritarianism

*who holds political power

They think we’re the bad guys.

And privacy is at the heart of it.

Privacy is changing.

Are we keeping up?

Europe's privacy overhaul

GDPR: 25 May 2018

- Replaced the Data Protection Directive of 1995
- Maintains original principles, expands and modernises
- Data at rest: collection, usage, retention

ePrivacy Regulation: early 2020

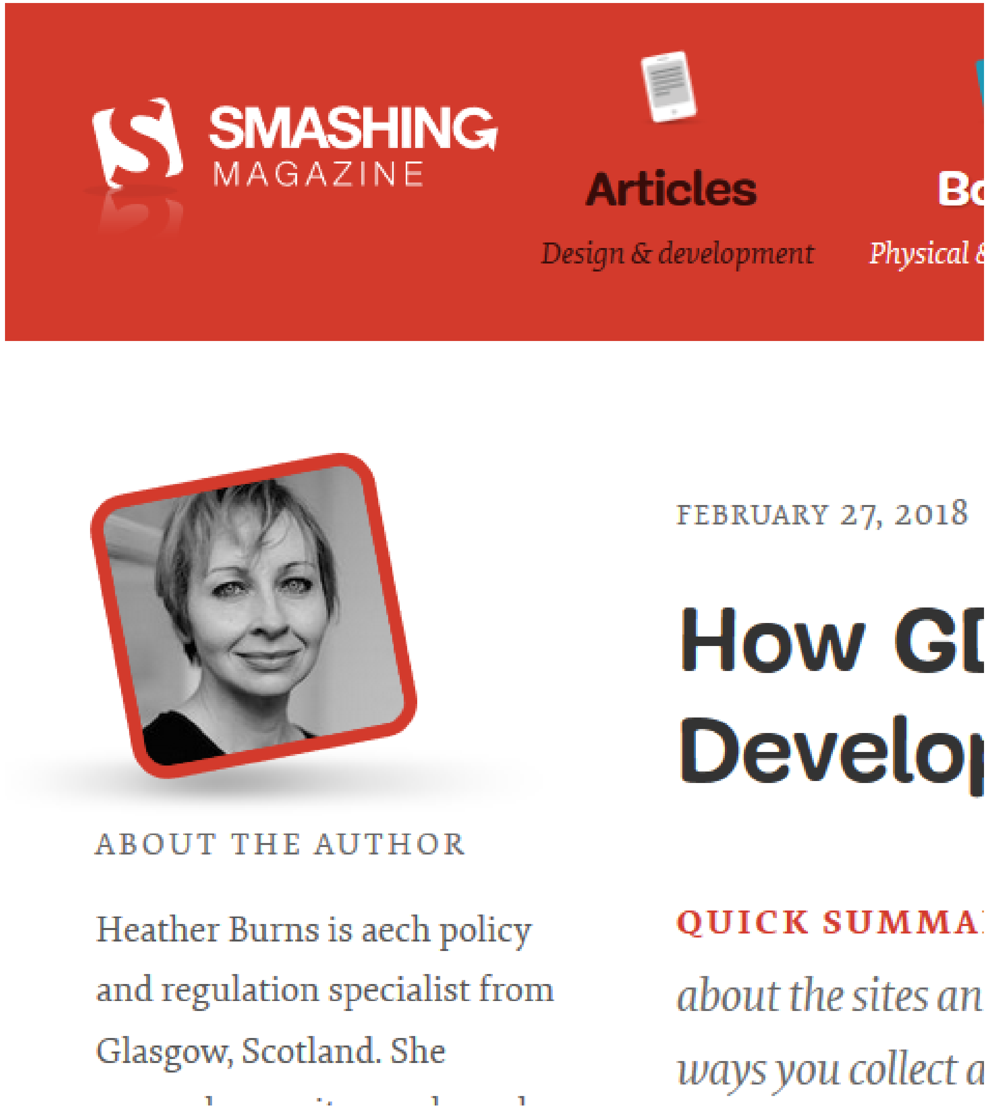
- Replaces the ePrivacy Directive of 2002
- Data in transit: cookies, telemetry, advertising beacons, marketing
- Colloquially known as the "Cookie Law"

Who is subject to GDPR and ePD?

- All data collected, processed, and retained about persons within the European Union
- Extraterritorial: applies to non-EU collection and processing
- All capturing and/or processing of personal data: no minimum size or turnover
- All situations: public sector, private sector, academia, startup, side project, or hobby

https://www.smashingmagazine.com/2018/02/gdpr-for-web-developers/

How GDPR changed how you develop



FEBRUARY 27, 2018

How GD
Develo

ABOUT THE AUTHOR

Heather Burns is aech policy and regulation specialist from Glasgow, Scotland. She

QUICK SUMMA

about the sites an ways you collect a

What you have	Awareness	Documentation	Privacy Notices	Children
How you engage	Individual Rights	PbD and DPbD	Consent	Lawful Basis
How you work	Subject Access Requests	Data Breaches	DPOs	International

GDPR: what is personal data?

Personal data: any information relating to an identified or identifiable natural person. This can be one piece of information or multiple data points combined in a record

Sensitive personal data: information about racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, health data, sex life or sexual orientation, past or spent criminal convictions

New definitions: genetic data, biometric data, location data, and online identifiers (e.g. database identifiers)

How is that different from PII?

PII = Americanism

- Full name (if not common)
- Face (sometimes)
- Home address
- Email address (if private from an association/club membership, etc.)
- National ID number (e.g., SSN)
- Passport number
- License plate number
- Driver's license number
- Face, fingerprints, or handwriting
- Credit card numbers
- Digital identity
- Date of birth
- Birthplace
- Genetic information
- Telephone number
- Login name, screen name, nickname, or handle

What *might* be PII?

- First or last name, if common
- Country, state, postcode or city of residence
- Age, especially if non-specific
- Gender or race
- Name of the school they attend or workplace
- Grades, salary, or job position
- Criminal record
- Cookies

The US is getting the hint about the need for privacy legislation

- "US GDPR" NTIA standards
- BROWSER Act
- SPADA
- Internet Bill of Rights
- FTC Privacy Act changes
- Social Media Privacy and Consumer Rights Act
- CONSENT Act
- Resolution on applying GDPR protections to U.S. citizens

California Consumer Privacy Act (CCPA)

Takes effect 01/01/20, and becomes enforceable 1 July 2020

Applies to any business with California users or customers who meet the following criteria:

For-profit businesses with gross revenues in excess of $25 million OR alone or in combination, holds data on >50,000 households, consumers, or devices, OR derives >50% of revenues from selling consumer PII

Does not apply to nonprofits

If you prepared well for GDPR, you're about 75% of the way there already

Why does that matter?

It matters because of the different
cultural, historical,
and legal views
of privacy across the Atlantic.

The web is made by the people who show up to make it.

And when it comes to privacy, we don’t have a clue about each other.

We have very different cultural approaches to privacy.

European cultural approach to privacy

- Privacy is a fundamental human right
- Data belongs to the subject
- Opt-in culture
- Culture of constructive work through regulators, with fines or court action a rare last resort
- People trust governments and fear businesses

American cultural approach to privacy

- Free speech is a fundamental human right
- Data belongs to the site/service owner
- Opt-out culture
- Culture of adversarial courtroom litigation
- People fear governments and trust businesses

These cultural differences were born from very different historical experiences.

European historical approach to privacy

- Collective/social approach
- Human > individual rights
- Legacy of holocausts, genocides, state totalitarianism
- European privacy approach is a form of atonement

American historical approach to privacy

- Individual approach
- Individual > human rights
- East coast “Puritan” legacy: private life should be public
- West coast “Frontier” legacy: freedom to do what you want without consent

These historical experiences led to very different legal approaches to privacy.

European legal approach to privacy

- Privacy is regulated through hard law
- One overarching law for all member states and sectors
- Data protection regulators
- Not tied to citizenship or nationality
- Privacy is its own law
- Litigation is the last resort

American legal approach to privacy

- Privacy is governed through soft law
- No overarching DP law; piecemeal approach across sectors and states
- No data protection regulator
- Tied to citizenship and nationality
- Privacy is a subcategory of contract, tort, or property law
- Litigation is the first resort

We all come our projects with a different understanding of what privacy is and how it works.

and we’ve never understood our differences, much less acknowledged them.

What’s the result of that?

We *structure* our work with different cultural approaches to privacy

We *write* our code with different legal approaches to privacy

We *assume* everyone we code with works and thinks like we do

We *create* the web with no common standard for privacy

We *fail* to do everything we could do to protect the people in the data

We *don’t* learn from our mistakes.

We have to do better.

And the first step to doing better is to understand where we are starting from before we can know where we’re going.

(uh, so where are we going?)

We’re going to shift our thinking.

We’re going to stop thinking of privacy as a complicated and scary legal problem to run away from…

…and we’re going to start thinking of it as an easy and positive development mindset to embrace.

(ok, that’s brilliant Heather,
now how do we do that?)

Where privacy matters

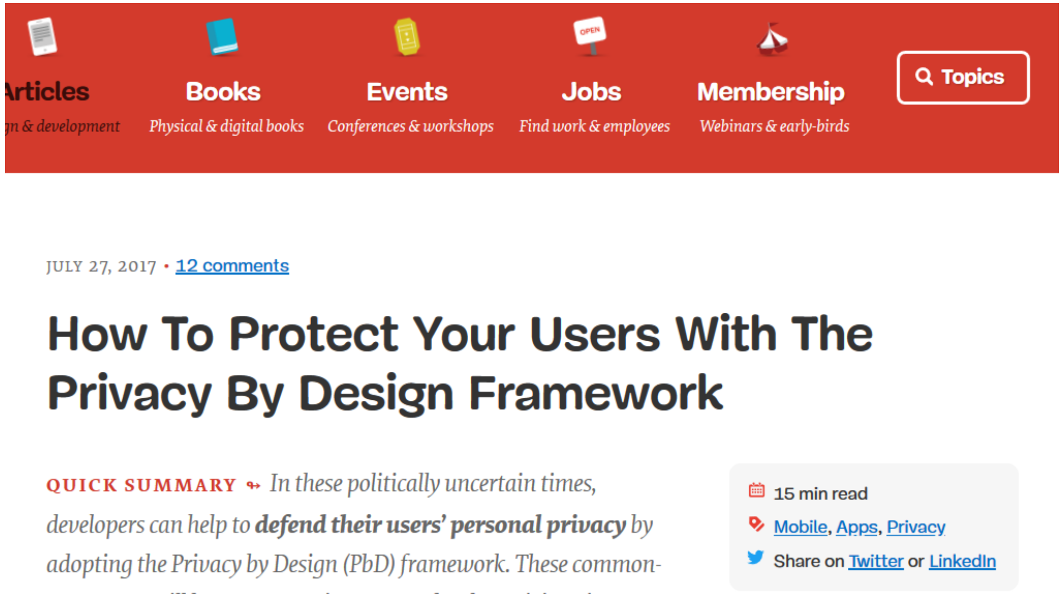
- Project management
- Development and coding
- Design and UX

Project management

First you need a framework.

https://www.smashingmagazine.com/2017/07/privacy-by-design-framework/

Privacy by Design



JULY 27, 2017 • 12 comments

How To Protect Your Users With The Privacy By Design Framework

QUICK SUMMARY ↬ *In these politically uncertain times, developers can help to* ***defend their users' personal privacy*** *by adopting the Privacy by Design (PbD) framework. These common-*

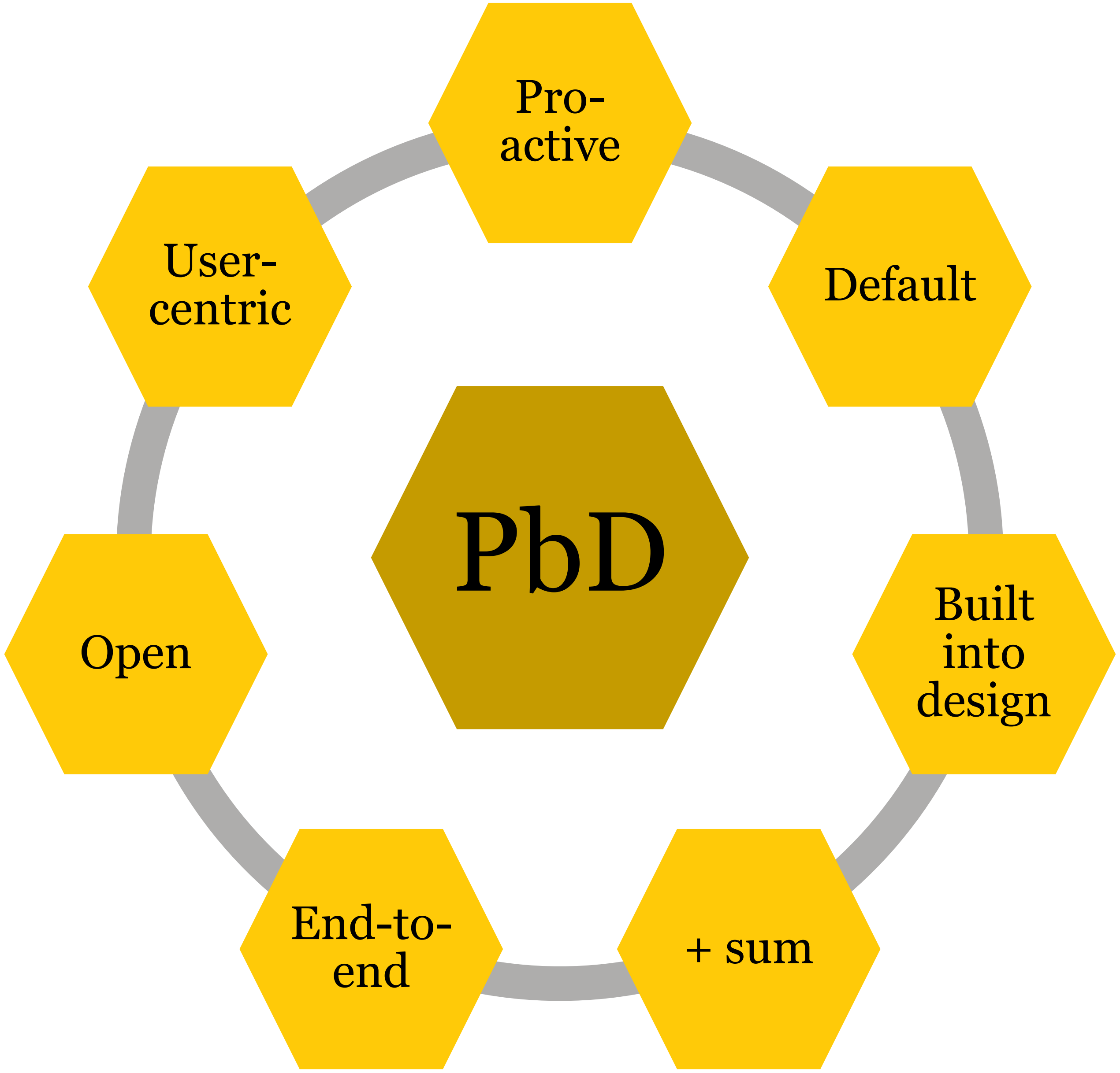
15 min read

Mobile, Apps, Privacy

Share on Twitter or LinkedIn

What is Privacy by Design?

- Non-regulatory development framework devised in Canada in the 1990s
- Incorporated into GDPR as a requirement
- Make it a part of your development workflow from now on
- https://www.smashingmagazine.com/2017/07/privacy-by-design-framework/



The seven principles of Privacy by Design

Then you need to do some documentation.

Privacy Impact Assessments

- A living document which must be accessible to everyone involved in a project
- Document what you are doing and why (consent/legal basis)
- Document the risks
  - To the data subjects
  - To the organisation
  - To technical and systems
- Document your risk mitigation
- This document **can be requisitioned by a data protection regulator**

Privacy Impact Assessments

- Data collection and retention
- Subject access rights
- Human and technical security
- Legal compliance
- Risks
- **Personnel, staff, and contributors**

PIA questions: Personnel, staff, and contributors

- Who has access to the data?
- **What data protection training have those individuals received?**
- What security measures do those individuals work with?
- What data breach notification and alert procedures are in place?
- What procedures are in place for government requests?

What data protection training have those individuals received?

- European data protection and privacy framework
- Industry or sector regulations (health, finance, etc)
- Development frameworks and methodologies
- Documentation of training in HR records
- Inductions and refreshers

Document it
or it didn’t happen.

Checklist:
Privacy in project management

- ❑ Privacy by Design
- ❑ Privacy Impact Assessments
- ❑ Data audits
- ❑ Data processing agreements
- ❑ Staff training and professional development
- ❑ Preparing for user rights
- ❑ Preparing for data breaches
- ❑ Document it or it didn’t happen

Development and coding

Coding standards

- Create a list of approved code libraries, tools, and frameworks
  - Programming languages, version control systems
  - Testing tools, infrastructure, monitoring tools, logging servers
  - Third party frameworks and APIs
- Disable unsafe/unnecessary modules
- Disable unnecessary data retention
- Code reviews should include data maps

System design

- Data minimisation, limitation, and deletion
- Encryption in transit and at rest
- Data sandboxing, separation, and aggregation
- Pseudonymisation, anonymisation
- Design reviews should view data flows through the eyes of an attacker

Testing and maintenance

- Dynamic testing for edge cases in the data
- Fuzz testing by intentionally triggering errors
- Penetration testing for data protection by design
- Security vulnerabilities and upgrades
- Incident logging and data breach preparation

Checklist:
Privacy in development and coding

❑ Privacy by Design

❑ Privacy Impact Assessments

❑ Design requirements

❑ Coding standards

❑ Development guidelines

❑ Technical and security measures

❑ Consent and subject access mechanisms

❑ Testing and maintenance

Design and UX

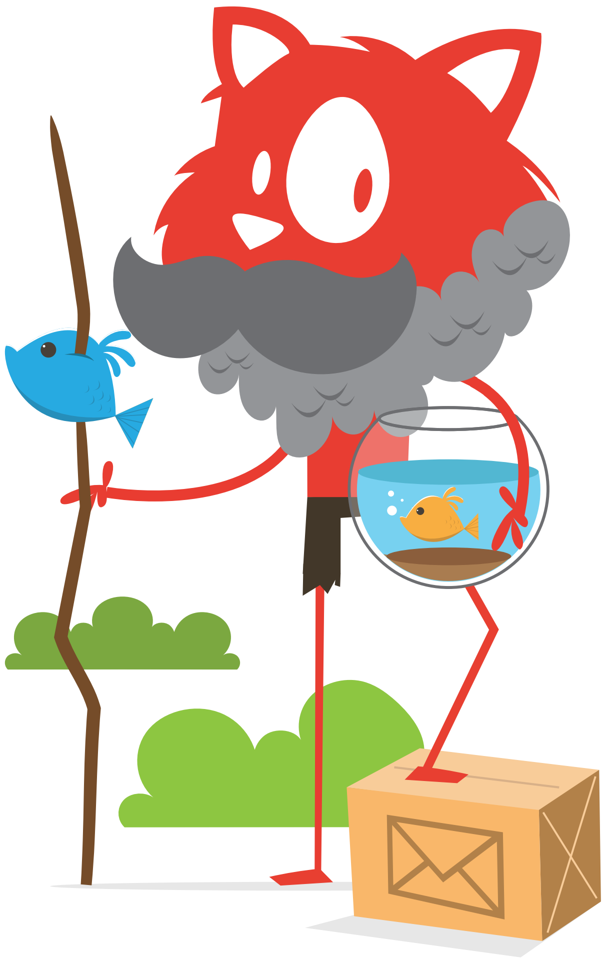
Design Resources @ Smashing

Part 1: Privacy Concerns And Privacy In Web Forms

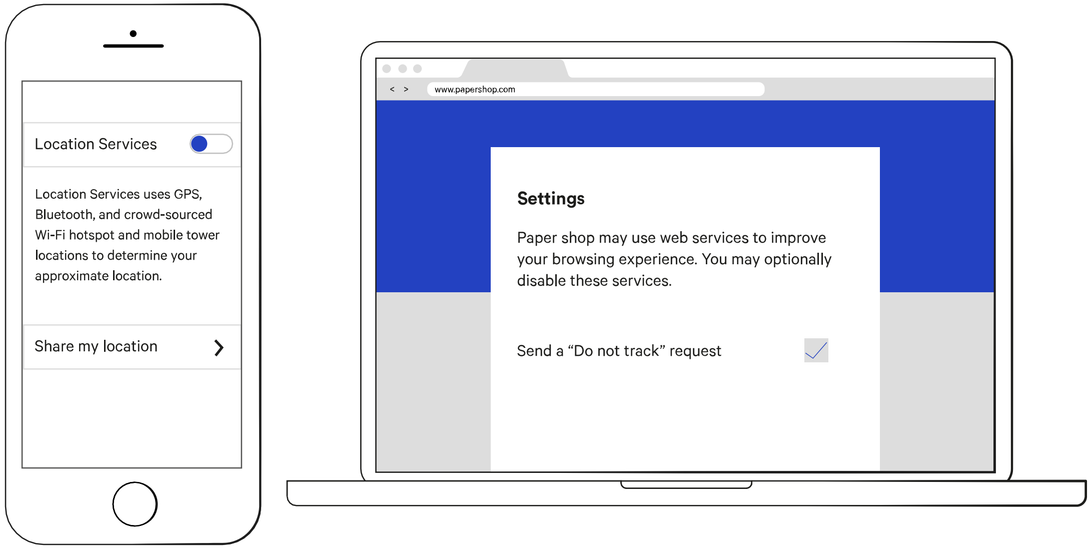
Part 2: Better Cookie Consent Experiences

Part 3: Better Notifications UX And Permission Requests

Part 4: Privacy-aware Design Framework



More design libraries and guides



Location Services ●

Location Services uses GPS, Bluetooth, and crowd-sourced Wi-Fi hotspot and mobile tower locations to determine your approximate location.

Share my location ›

www.papershop.com

Settings

Paper shop may use web services to improve your browsing experience. You may optionally disable these services.

Send a "Do not track" request ☑

- Data permissions catalogue for designing for consent (Projects by IF)
- Design for privacy - how will the ePrivacy revamp affect UX/design
- IAPP UX guide to getting consent
- Bridging privacy policy with product design
- Shaping Choices in the Digital World
- Dark Patterns (don't do these!)

Checklist: Privacy in design and UX

- ❑ Designing to protect
- ❑ Designing for user rights
- ❑ Designing to inform
- ❑ Designing for consent
- ❑ Removing friction from good privacy options
- ❑ Introducing friction in front of negative privacy options
- ❑ Avoiding dark patterns and deceptive UX

…and one thing I don’t want you to do

IF YOU'RE HOLDIN
that ethics is the tech
it? A cautious reader mig
trend at all. After all, trends
year's trend is this year's laughing stock.
from gadgets to governance, we need to m
the ethics trend as the latest fashion, as if it's
now but foolish later. We also need to make su
trend to cover for our shortcomings elsewhere,
concerned. After all, who would look cynically at
about privacy ethics?

Well, we all should.

It's time to talk about "ethi
academically recognized p
focusing on, but not limite
regulation. Loosely put, eth
happens when ethics proje
adopted in lieu of a healthy
compliance. These codes ar
complement privacy laws
grant users; instead, they
circumvent them.

It's no surprise that priv
hit the mainstream. Et
misunderstood as soft
them makes you look
hand, are often mis
and talking about
dull. But when i
protection, us
and regulati
backfire o

Ethics washing

When ethics and codes of practice are used as a substitute for legal compliance

...or a means to cover up for the lack of it

What have you learned today?

- **Why** privacy can be so challenging in our projects
- **How** we cause problems we didn’t intend to create
- **What** we can do better, whatever role we play
- **Where** to find resources to help us along the way

Where to start?

❑ Talk about what you know – and what you don’t

❑ Review your data capture, sharing, flows, and retention

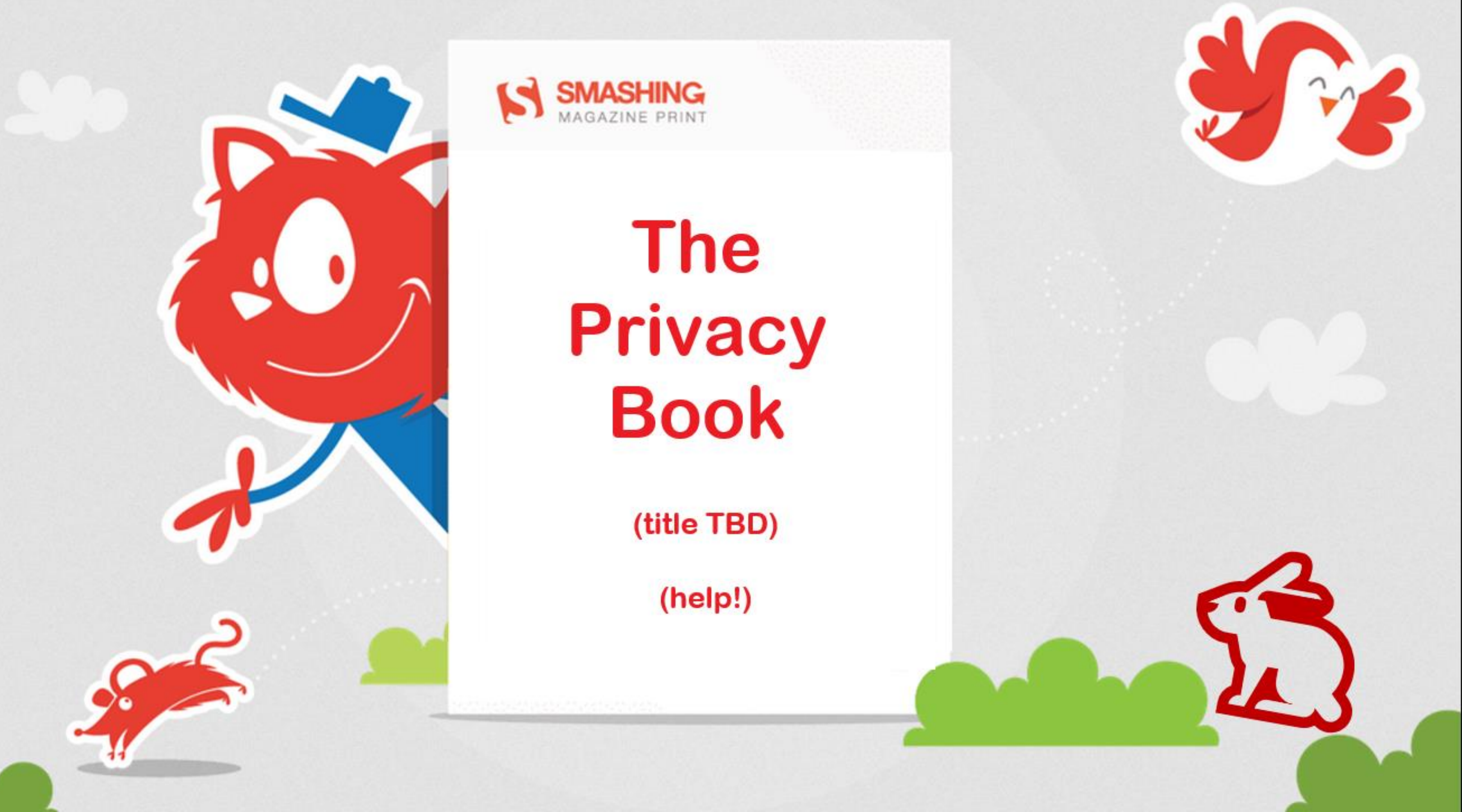
❑ Conduct a Privacy Impact Assessment

❑ Read up on GDPR, PBD, and the upcoming US privacy laws

❑ Take a look at your design and consent patterns

❑ Become privacy champions in your workplaces

❑ Contribute to privacy in open source projects



The Privacy Book

(title TBD)

(help!)

You are people of enormous power and influence over privacy on the web.

The actions you take within your projects, however small, can protect the people in the data from those who would use that data to hurt them.

Let’s work to make the web a better place.

Now get started.

- @webdevlaw
- https://webdevlaw.uk/
- https://afterbrexit.tech
- https://www.smashingmagazine.com/2018/02/gdpr-for-web-developers/
- https://www.smashingmagazine.com/2017/07/privacy-by-design-framework/
- …the book (late spring – early summer 2020)