

# Analyzing GDPR Compliance Through the Lens of Privacy Policy

Jayashree Mohan, Melissa Wasserman,  
Vijay Chidambaram



vmware®



TEXAS  
The University of Texas at Austin

# General Data Protection Regulation (GDPR)



Non-compliance can result in hefty **fin**es and **penalties**

# 2019 : The year of enforcement!

Google (\$55 million)

Jan 2019

Lack of explicit consent  
and transparency

Taxa 4x35 (\$180 K)

March 2019

No timely deletion

Haga Hospital(\$550 K)

July 2019

Lax controls over logging  
and access

Mariott  
(\$124 million)

July 2019

Poor data security

British Airways  
(\$230 million)

July 2019

Poor data security

# 2019 : The year of enforcement!

Google (\$55 million)

Jan 2019

Lack of explicit consent  
and transparency

Taxa 4x35 (\$180 K)

March 2019

No timely deletion

Haga Hospital(\$550 K)

July 2019

Lax controls over logging  
and access

Mariott  
(\$124 million)

July 2019

Poor data security

British Airways  
(\$230 million)

July 2019

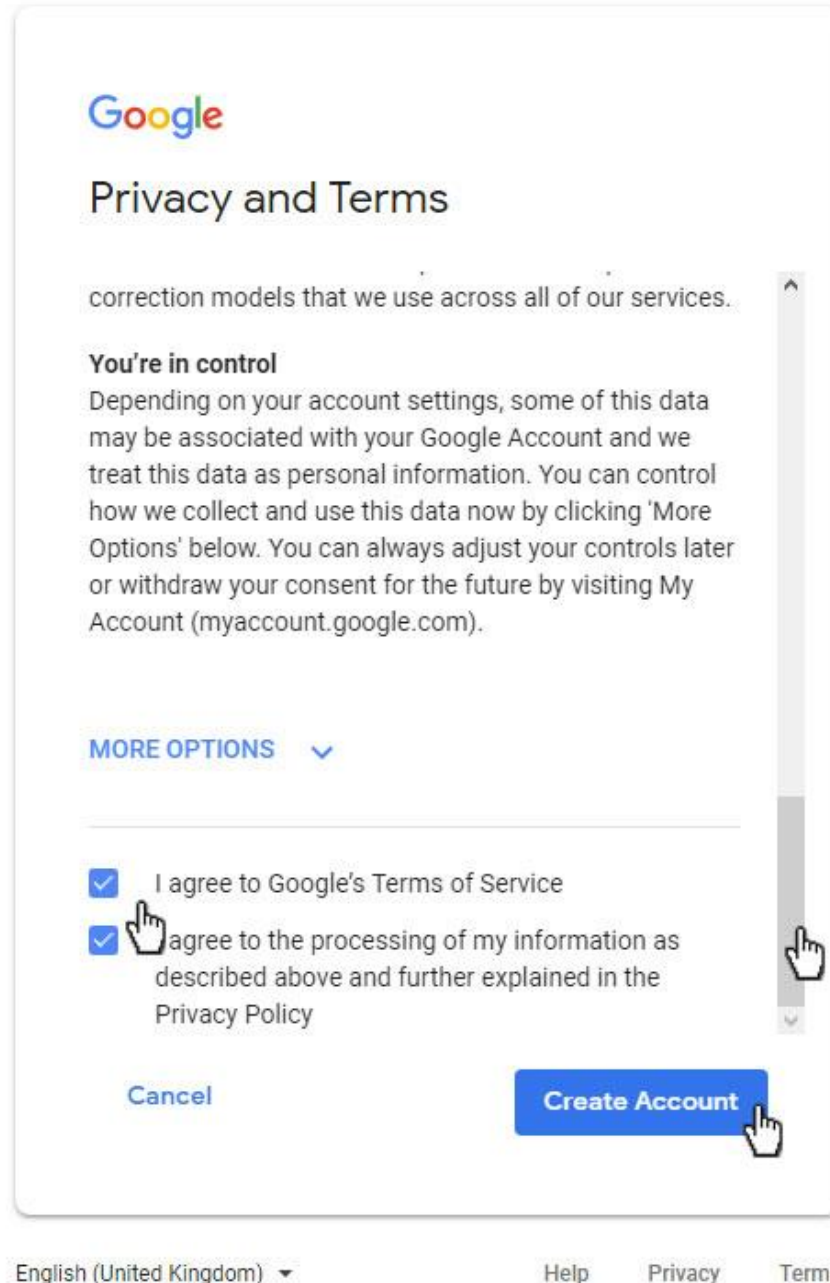
Poor data security

# Transparency

Google (\$55 million)

Jan 2019

Lack of explicit consent  
and transparency



The screenshot shows the Google 'Privacy and Terms' page during account creation. It includes the Google logo, a title 'Privacy and Terms', and a paragraph about correction models. A section titled 'You're in control' explains data handling. Below this is a 'MORE OPTIONS' link with a dropdown arrow. Two checkboxes are visible, both checked, with a hand cursor hovering over the second one. At the bottom are 'Cancel' and 'Create Account' buttons, with a hand cursor clicking 'Create Account'. A vertical scrollbar is on the right side of the main content area.

Google

## Privacy and Terms

correction models that we use across all of our services.

**You're in control**  
Depending on your account settings, some of this data may be associated with your Google Account and we treat this data as personal information. You can control how we collect and use this data now by clicking 'More Options' below. You can always adjust your controls later or withdraw your consent for the future by visiting My Account (myaccount.google.com).

[MORE OPTIONS](#) ▼

☒ I agree to Google's Terms of Service

☒ I agree to the processing of my information as described above and further explained in the Privacy Policy

[Cancel](#) [Create Account](#)

English (United Kingdom) ▼ Help Privacy Terms

# What GDPR Requirements did Google fail to meet?

***“Lack of transparency, inadequate information and lack of valid consent regarding ads personalization”***

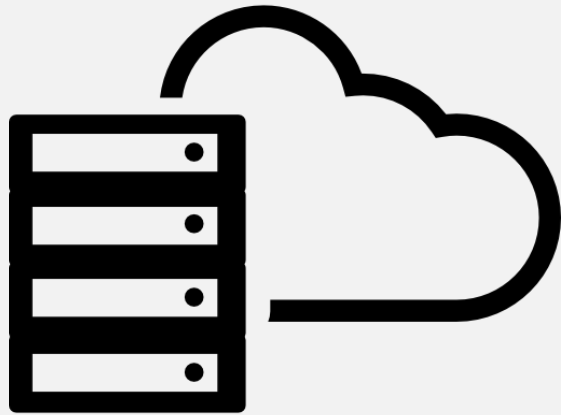
## Transparency

GDPR Article 12

***The controller shall take appropriate measures to provide any information... relating to processing to the data subject in a concise, transparent, intelligible and easily accessible form, using clear and plain language.***

**Clear and Concise Privacy Policy**

# Privacy Policy



Data Processor/ Controller



Ask consent and  
establish user rights  
via privacy policy



Users/ Customers

# Privacy Policy



**Long**



**Use jargons**



**Difficult to comprehend**

**How can users consent to their personal-data use if they cannot read/understand privacy policies?**



# Main takeaways

1. What are the key information any GDPR compliant system should provide to its user in a straight-forward way?
2. Identifying GDPR dark patterns : Case study of privacy policy of 10 popular cloud services
3. A systems perspective on solving GDPR dark patterns

# Main takeaways

1. What are the key information any GDPR compliant system should provide to its user in a straight-forward way?
2. Identifying GDPR dark patterns : Case study of privacy policy of 10 popular cloud services
3. A systems perspective on solving GDPR dark patterns

# Outline

- GDPR-compliant privacy policy
- Case study of privacy policy of 10 cloud services
- GDPR dark patterns
- Future directions

# Outline

- **GDPR-compliant privacy policy**
- Case study
- GDPR dark patterns
- Future directions

# GDPR Compliant Privacy Policy

## 1 **WHO** uses the collected data

Processing Entities : The source of data, and the entities with whom data is shared.

# GDPR Compliant Privacy Policy

1 **WHO** uses the collected data

2 **WHAT** personally identifiable data is collected

Data categories: Attributes of personally identifiable information collected

# GDPR Compliant Privacy Policy

1 **WHO** uses the collected data

2 **WHAT** personally identifiable data is collected

3 **WHY** is the data being collected

Purpose: The legal basis for collection and processing of each data category

# GDPR Compliant Privacy Policy

- 1 **WHO** uses the collected data
- 2 **WHAT** personally identifiable data is collected
- 3 **WHY** is the data being collected
- 4 **WHEN** will the collected data expire and be deleted  
Retention: The policy or period of retention for each data category



# GDPR Compliant Privacy Policy

- 1 **WHO** uses the collected data
- 2 **WHAT** personally identifiable data is collected
- 3 **WHY** is the data being collected
- 4 **WHEN** will the collected data expire and be deleted
- 5 **HOW** can a user exercise control over his/her data  
User controls: How can users access/enforce their rights over data

# GDPR Compliant Privacy Policy

- 1 **WHO** uses the collected data
- 2 **WHAT** personally identifiable data is collected
- 3 **WHY** is the data being collected
- 4 **WHEN** will the collected data expire and be deleted
- 5 **HOW** can a user exercise control over his/her data
- 6 **DOES** the controller ensure safety of user data
  - Data Protection: Measures taken to ensure safety and protection of user data

# GDPR Compliant Privacy Policy

- 1 **WHO** uses the collected data
- 2 **WHAT** personally identifiable data is collected
- 3 **WHY** is the data being collected
- 4 **WHEN** will the collected data expire and be deleted
- 5 **HOW** can a user exercise control over his/her data
- 6 **DOES** the controller ensure safety of user data
- 7 **DOES** the controller appropriately notify users of changes in policy  
Policy updates: Notify users appropriately of changes to privacy policy and ask consent

# GDPR Compliant Privacy Policy

- 1 **WHO** uses the collected data
- 2 **WHAT** personally identifiable data is collected
- 3 **WHY** is the data being collected
- 4 **WHEN** will the collected data expire and be deleted
- 5 **HOW** can a user exercise control over his/her data
- 6 **DOES** the controller ensure safety of user data
- 7 **DOES** the controller appropriately notify users of changes in policy

# Outline

- GDPR-compliant privacy policy
- **Case study**
- GDPR dark patterns
- Future directions

	Processing	Data	Retention	Purpose	Controls	Protection	Updates
Bloomberg	✗	✓	✗	✓	✗	✗	✗
Onavo	✗	✓	✗	✓	✗	✗	✓
Instagram	✗	✓	✗	✓	✓	✗	✓
Uber	✗	✓	✓	✓	✗	✗	✓
edx	✓	✓	✓	✓	✗	✗	✗
Snapchat	✓	✓	✓	✓	✓	✓	✗
icloud	✗	✓	✓	✓	✓	✓	✓
Whatsapp	✓	✓	✓	✓	✓	✓	✓
Flybe	✓	✓	✓	✓	✓	✓	✓
Metro bank	✓	✓	✓	✓	✓	✓	✓

5.4

6. HOW WE USE YOUR PERSONAL DATA

As part

We are required to tell you what we use your Personal Information for and the lawful basis on which we can process your Personal Information:

processor:

Proces:	Purpose	Type of Personal Information	Lawful basis for processing	Details
Adyen   Simon (  1011 D Amster The Ne	To monitor browsing on our website or use our app	<ul style="list-style-type: none"><li>• Technical Data</li></ul>	<ul style="list-style-type: none"><li>• Legitimate interest</li><li>• Consent</li></ul>	<p>To improve the functionality and content of our website or our app.</p> <p>For more information please see our Cookie Policy.</p>
Lloyds   Cardne Phoeni: Christo Basildo Essex SS14 3	To create an account with us	<ul style="list-style-type: none"><li>• Identity Data</li><li>• Contact Data</li></ul>	<ul style="list-style-type: none"><li>• Legitimate interest</li></ul>	<p>To collect information about our potential customers. We will not send you any electronic marketing unless you have expressly consented to receive it.</p> <p>To improve the speed at which you can purchase flights and services from us.</p>

# Outline

- GDPR-compliant privacy policy
- Case study
- **GDPR dark patterns**
- Future directions





# GDPR Dark Patterns

Oftentimes we simply click ‘I agree’. What are we signing up for ?

- 4 common dark-patterns in cloud service



# 1. User rights : All or Nothing



One checkbox to access all services



Deactivate account to object to processing any piece of collected info

No fine-grained control over personal data

## Uber's Privacy Policy

*"Uber may continue to process your information notwithstanding the objection to the extent permitted under GDPR"*

## edx's Privacy Policy

*"Deleting user information does not apply to "historical activity logs or archives unless and until these logs and data naturally age-off"*

## 2. Purpose bundling

- No option to opt of specific services
- All the processing is bundled into one consent box

### Instagram:

*“Our Service Providers will be given access to your information as is **reasonably** necessary to provide the Service under **reasonable** confidentiality terms”*

Google was fined \$55 Million for a similar charge

*“Google’s consent flow doesn’t comply with the GDPR according to the CNIL. By default, Google really pushes you to sign in or sign up to a Google account. The company tells you that your experience will be worse if you don’t have a Google account. According to the CNIL, Google should separate the action of creating an account from the action of setting up a device — consent bundling is illegal under the GDPR.”*



### 3. Notifications

- **Notify users of changes in privacy policy by appropriate means**
  - Ask for consent to the modified policy
  - Show users the new additions to privacy policy instead of asking them to accept the new terms by reading the entire policy document

#### Edx, Bloomberg

*"Label the Privacy Policy as "Revised (date)[...]. By accessing the Site after any changes have been made, you accept the modified Privacy Policy and any changes contained therein"*



## 4. Data Protection

Many services including Uber and Onavo state nothing about data protection strategies used ( encryption ) or international transfer policies

Highest GDPR fine so far was levied on British Airways for negligent data protection

UK Information Commissioner on BA fine :

*“People’s personal data is just that – personal. When an organisation fails to protect it from loss, damage or theft it is more than an inconvenience. That’s why the law is clear – when you are entrusted with personal data you must look after it. Those that don’t will face scrutiny from my office to check they have taken appropriate steps to protect fundamental privacy rights.”*



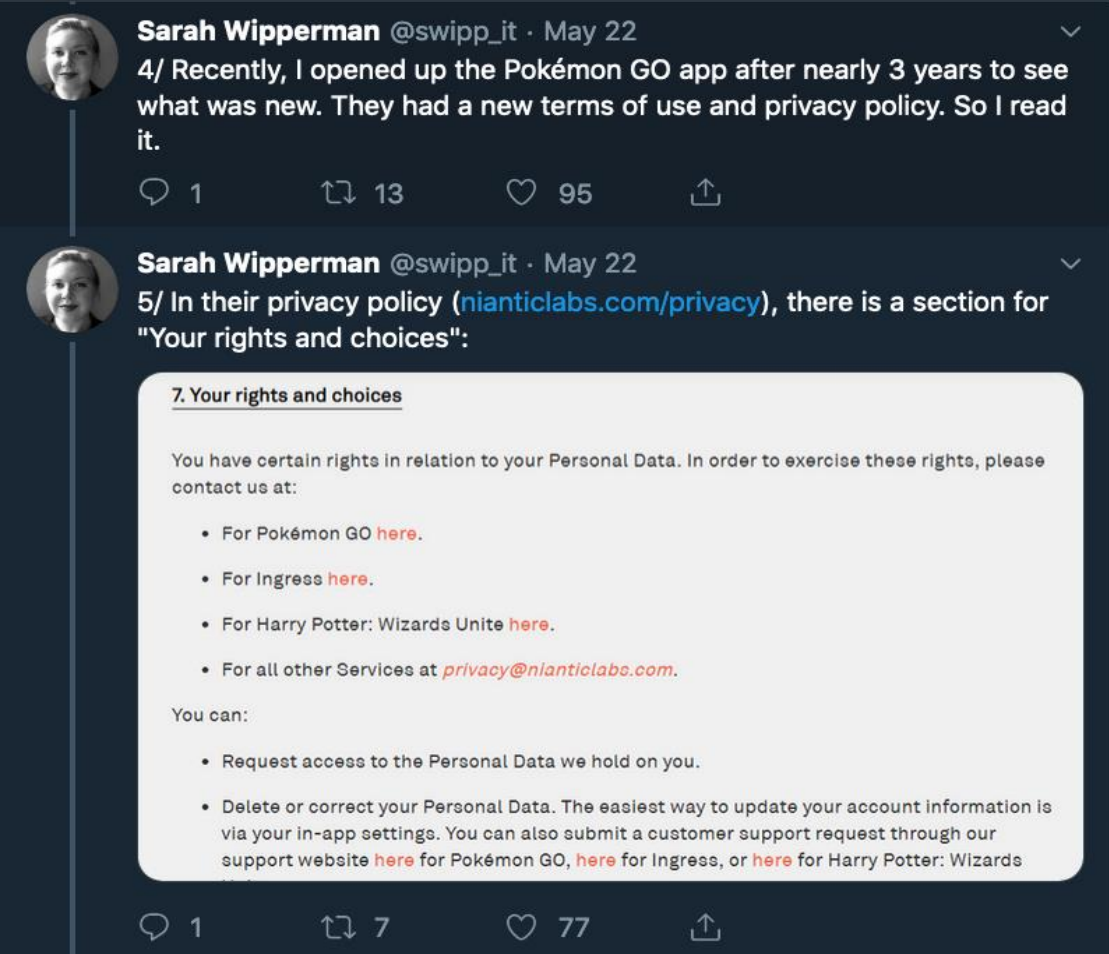
# Outline

- GDPR-compliant privacy policy
- Case study
- GDPR dark patterns
- **Future directions**

Is it enough if companies get their privacy policy right?

Are users able to enforce their rights that the privacy policy claims to provide?









Katarzyna  
@szymielewicz

Ad auction systems are "obscure by design": there is no way for users to exercise their right to correct or delete marketing categories (even very sensitive ones). \*IAB and others to fix this failure\*. Today we filed a complaint with the regulators in the UK, Poland, and Ireland.

AdGuard  
@AdGuard

Twitter is accused of refusing a request to provide a user information about their collected personal data, the company said it would require "disproportionate effort". This supposedly goes against #GDPR, an investigation is launched already.

Paul Joseph Watson  
@PrisonPlanet

SING to hand over data on why it months later. This is in violation of going to drop it? I won't. the data.

Johnny Ryan @johnnyryan · Jan 28  
Today @jimkillock of @OpenRightsGroup, @mika @szymielewicz of @Panoptikon, and I filed new regulators the UK, Poland, and Ireland @ICOnews brave.com/update-rtb-ad-...  
[Show this thread](#)

ise their individual GDPR rights processors? It's an incredibly



Twitter faces investigation by privacy watchdog over user tracking  
Ireland's Data Protection Commission has launched an investigation into Twitter after it refused a request inquiring into its collection of location data from users.  
telegraph.co.uk

to avoid the data  
provide users with  
ns to article 15  
violation of our  
provide this  
of others, as set out in  
our Community  
have reported the breach  
triggers disablements  
d protocols by potentially  
ow to adjust their behaviour  
ply with the request for this  
PL · Apr 11  
I been unable to

# Enable users a hassle-free control over their personal data

## GDPR-compliant systems

Understand how GDPR affects the design and operation of Internet companies

[Seven GDPR Sins : HotCloud'19]



Translate these to the need for infrastructural changes

[Impact of GDPR on Storage Systems: HotStorage'19]

## Simple, straight-forward privacy policies

Write clear, concise privacy policies



Tools to parse and identify GDPR compliance and user rights from a privacy policy

[Polisis: Security'18]

**Security &  
Privacy**

**Policy**

**Access Control**

**Systems**





More works on analyzing GDPR from a systems perspective

<https://utsaslab.github.io/research/gdpr/>

Thanks



# Enable users a hassle-free access to their personal data

## GDPR-compliant systems

Understand how GDPR affects the design and operation of Internet companies

[Seven GDPR Sins : HotCloud'19]



Translate these to the need for infrastructural changes

[Impact of GDPR on Storage Systems: HotStorage'19]



Build GDPR-compliant systems

## Simple, straight-forward privacy policies

Write clear, concise privacy policies

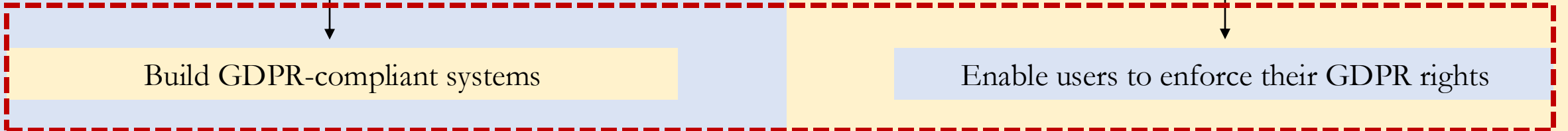
[Polisis: Security'18]



Tools to parse and identify GDPR compliance and user rights from a privacy policy



Enable users to enforce their GDPR rights





**Carl Miller** ✓  
@carljackmiller

There is an absolutely infuriating Catch-22 at the heart of GDPR that I just need to get off my chest.

You go to a company to learn what data they have about you:

"What data do you want?" They ask.

"I don't know what data you have".

"You need to specify what data you want"

5:50 AM · Apr 14, 2019 · [Twitter Web Client](#)

11 Retweets 17 Likes



**Carl Miller** ✓ @carljackmiller · Apr 14  
Replying to @carljackmiller

You don't know what data they have, so you can't ask for the data back. The whole point was that GDPR was supposed to give consumers a better idea of what data is held about them. And it can't, because no-one knows what data is held about them...



5



3



8



**Chris Monteiro** @Deku\_shrub · Apr 14  
Replying to @carljackmiller

> "What data do you want?" They ask

That's a sign of a company without a standardised process to fulfill the request. You should be in your rights to ask for 'everything' AFAIK



1



1



6



**Staffan Dahl** @staffan\_d · Apr 14

Article 15 in GDPR about access to data is clear. They have to provide all data they have as well as purposes for processing etc.



2



2



**Carl Miller** ✓ @carljackmiller · Apr 14

Yes... that is not exactly how it's practically shaking out



4

