

Protection from Web tracking via browsers & browser extensions

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Security and ethical aspects of data

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Plugins and extensions (add-ons)

- **Plugins** were created to render the content not supported by the browser

- Flash Java



- **Extensions (add-ons)** add or modify the default behavior of the browsers

- Adblock Plus LastPass Pinterest



LastPass...



Extensions for privacy protection

- Extensions “**ad-blocking**”
 - Block visible advertisements
- Extensions “**tracking-blocking**”
 - Block invisible tracking
 - ✓ Example : request for an invisible image with third-party cookies



Ad-blocking ≠ tracking-blocking!

« Ad-blocking » extensions

• AdBlock



AdBlock Plus

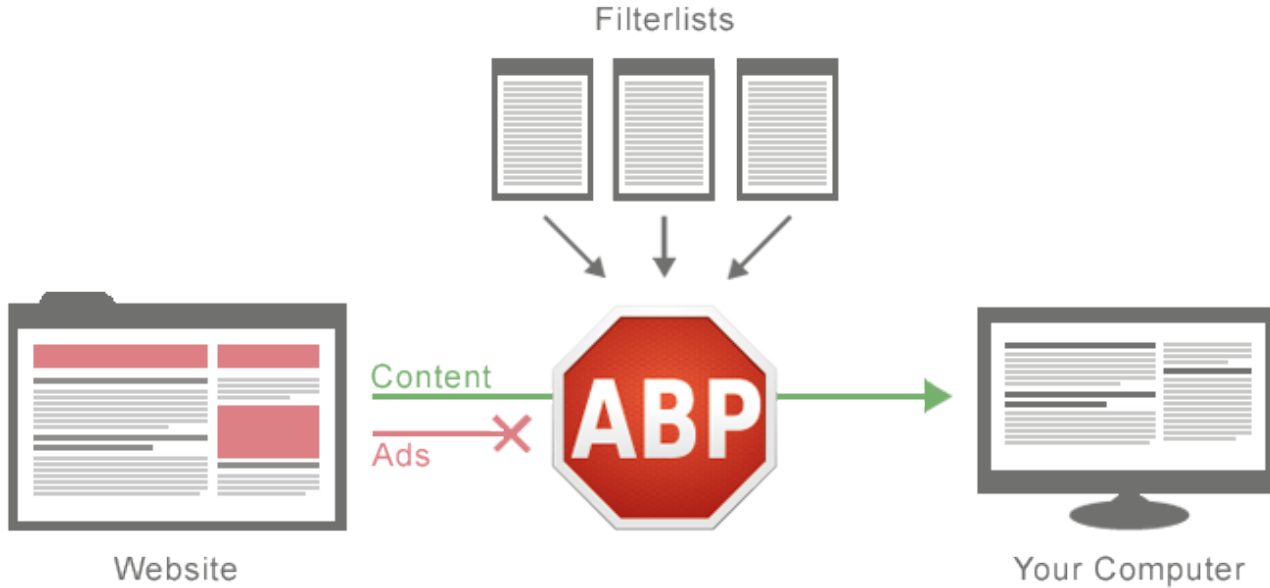


uBlock Origin



- Use the same consumer lists that detect ad companies
- Block requests to domains presented in the lists

How does AdBlock Plus work?



<https://adblockplus.org/about>

Configuration of AdBlock Plus

ABP
Adblock **Plus**
Settings

General

Whitelisted websites

Advanced

Help

CONTRIBUTE

[About Adblock Plus](#)

General

Determine what Adblock Plus shows and hides on websites

PRIVACY & SECURITY

- Block additional tracking [?](#)
- Block social media icons tracking [?](#)

ACCEPTABLE ADS

Allow Acceptable Ads

Acceptable Ads are nonintrusive ads. They are the middle ground between ad blocking and supporting content that generates revenue for website owners.

Acceptable Ads are not annoying and do not interfere with the content you are viewing. [Read more about the Acceptable Ads criteria](#)

Only allow ads without third party tracking **NEW**

Certain “acceptable ads”
are still allowed

Which ads are « acceptable »?

ABP Adblock Plus

Do you think this is a good idea? Show your support by signing our [Acceptable Ads Manifesto](#).

What is an Acceptable Ad?

Ads that shall be treated as Acceptable Ads have to comply with the following criteria:

General criteria

Placement

Ads must not disrupt the user's natural reading flow. Such ads must be placed on top, side or below the Primary Content¹.

- An action initiated by Eyeo (Ad Block owner)
- Which **ad is acceptable** ?
 - Well-placed, well-identified, not too big size...
- Large entities **have to pay** to show the ads even if their ads are already « acceptable »!

Configuration of AdBlock Plus

The screenshot shows the AdBlock Plus settings interface. On the left is a sidebar with the AdBlock Plus logo and navigation links for General, Whitelisted websites, Advanced, and Help. The main content area is titled 'General' and contains sections for 'PRIVACY & SECURITY' and 'ACCEPTABLE ADS'. In the 'PRIVACY & SECURITY' section, the checkboxes for 'Block additional' and 'Block social media' are unchecked. In the 'ACCEPTABLE ADS' section, the 'Allow Acceptable Ads' checkbox is checked, and the 'Only allow ads without third-party tracking' checkbox is unchecked. A red arrow points from a callout box to the 'Block additional' checkbox.

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[About Adblock Plus](#)

General

Determine what Adblock Plus shows and hides on websites

PRIVACY & SECURITY

- Block additional
- Block social media

ACCEPTABLE ADS

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Only allow ads without third-party tracking NEW

[Learn more](#)

Acceptable Ads are nonintrusive ads. They are the middle ground between ad blocking and supporting online content because they generate revenue for website owners.

Tracking **is not blocked** by default !

Ad-blocking ≠ tracking-blocking!

Ad-blocking ≠ tracking-blocking!



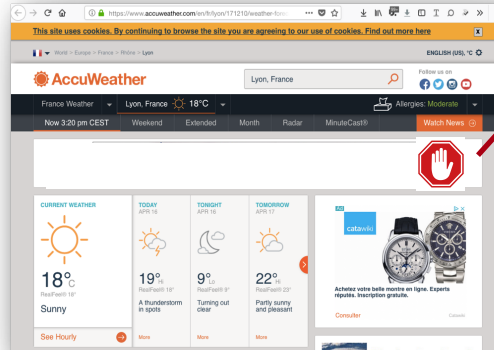
- Extensions block ads but **do not block all the tracking**



cookies stockés

tracker.com: id=123

http://accuweather.com



cookie: id=123

tracker.com

9h25, 27 june 2018 :
user 123 likes



10h00, 30 june 2018 :
user 123 visited
accuweather.com

profil

Tracking-blocking extensions

- How to detect a tracker ?
- Solution 1 : use **a liste of known companies** for tracking
- Solution 2 : use **rules based on the behaviour** of potential trackers
 - Example : third-party content that sets third-party cookies with a unique identifier

```
"Facebook": {  
  "http://www.facebook.com/": [  
    "facebook.com",  
    "facebook.de",  
    "facebook.fr",  
    "facebook.net",  
    "fb.com",  
    "atlassolutions.com",  
    "friendfeed.com"  
  ]  
}
```

Tracking-blocking extensions

- Extensions use **their own lists of known companies** for tracking

Disconnect



- Blocks from tracking upon installation

Ghostery



- **Doesn't block from tracking by default!**

Ghostery: activate blocking of trackers

The screenshot shows the Ghostery interface with the following elements:

- Header:** Ghostery logo and 'Sign In' button.
- Left Sidebar:** Navigation menu with items: Global Blocking, Trust & Restrict, General Settings, Notifications, Opt in, Purple Box, and Account.
- Main Content Area:**
 - GLOBAL BLOCKING:** Section header with a 'Block All' button circled in red.
 - Search:** 'Search by tracker' input field.
 - Expand All:** Filter dropdown set to 'All'.
 - Advertising:** 1750 TRACKERS
 - Site Analytics:** 629 TRACKERS
 - Customer Interaction:** 277 TRACKERS (with a dropdown arrow and a checkbox)
 - Social Media:** 100 TRACKERS (with a dropdown arrow and a checkbox)
 - Essential:** 64 TRACKERS (with a dropdown arrow and a checkbox)

Click on “Block All” to be protected from known trackers!

Tracking-blocking extensions

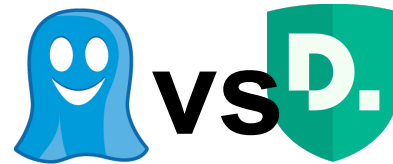
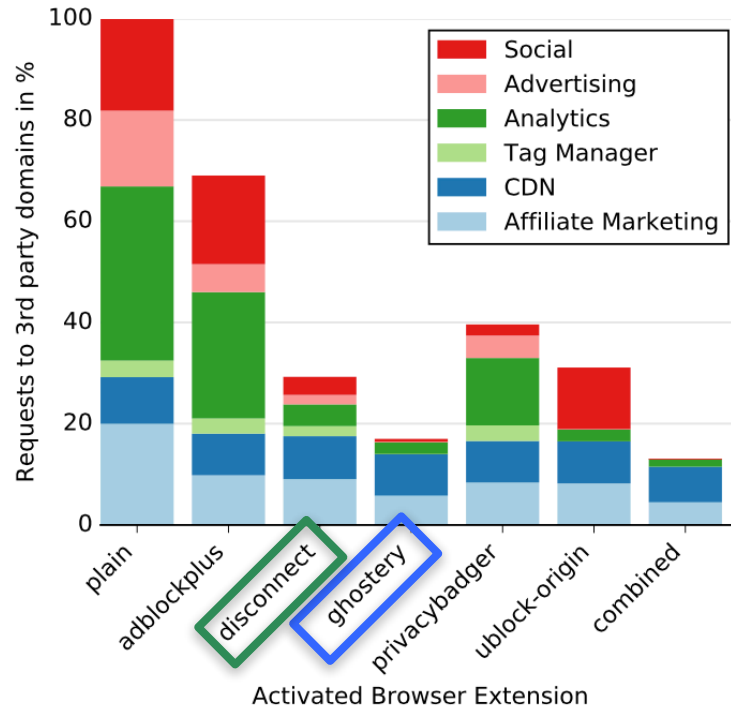
- One extension uses **rules based on the behaviour** of potential trackers

Privacy Badger

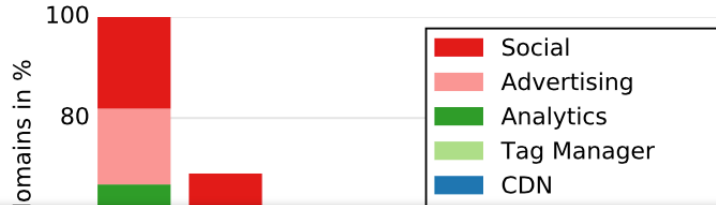


- How to detect cookies that contain an identifier?
 - Solution : find third-party cookies that are never shared between the users

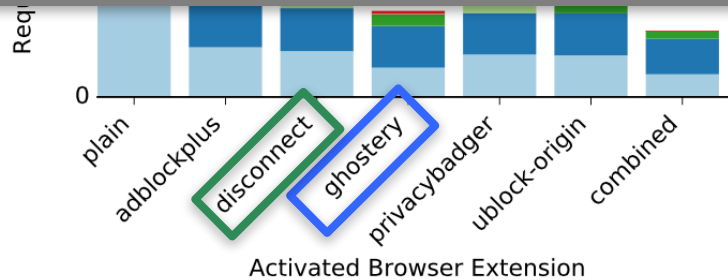
Do browser extensions block all trackers?



Do browser extensions block all trackers?



Users may falsely believe that they are fully protected from tracking!



Browsers with integrated tracking protection

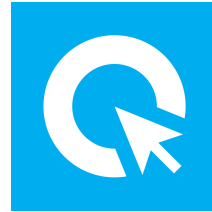
Brave



- **Third-party cookies are blocked** upon installation
- Tracking protection by **lists of** AdBlock et Disconnect

<https://brave.com/index/>

Cliqz



- **Third-party cookies are blocked** upon installation
- Tracking protection based on **the behaviour of third-party requests**

<https://cliqz.com/fr/>

Firefox uses the same protection as Disconnect



General

Home

Search

Privacy & Security

Firefox Account

Tracking Protection

Tracking Protection blocks online trackers that collect your browsing data across multiple websites. [Learn more about Tracking Protection and your privacy](#)

Use Tracking Protection to block known trackers

Always

Only in private windows

Never

Exceptions...

Change Block List...

- **Firefox uses the same list of known trackers** as Disconnect
- No need to install Disconnect with Firefox if tracking protection is always on!

Conclusion

- **Ad-blocking ≠ tracking-blocking!**
 - Extensions that block ads do not necessarily block tracking
- **Installation ≠ protection**
 - Always double-check that all the protecting options are chosen!
- **Advices to protect from stateful tracking:**
 - Browsers that protect by default (Brave, Cliqz)
 - Browsers with protection integrated (Firefox)
 - Combination of various extensions (Disconnect, Ghostery, Privacy Badger)

