

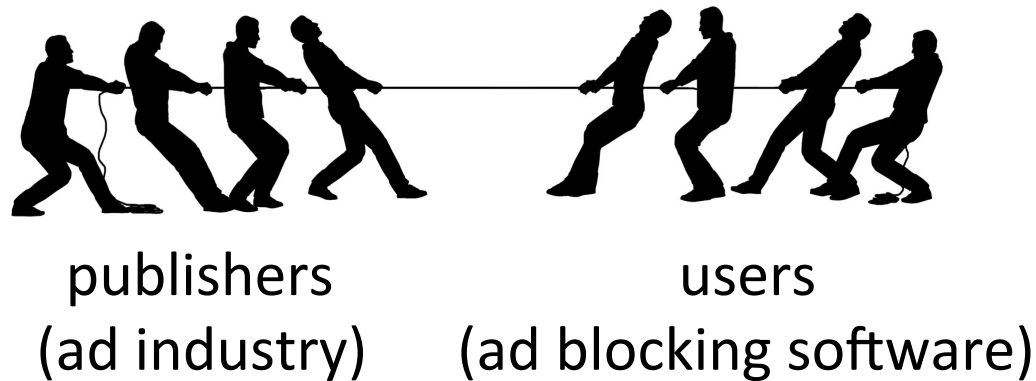
MyTrackingChoices: Pacifying the Ad-Block War by Enforcing User Privacy Preferences

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**Joint work with
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University of California, Berkeley

Ad-supported economic model of the Web is under threat today!



AdBlock War

Why ad-supported economy in danger

1

intrusive and annoying ads
privacy-invasive ads
ads are a source of malware
ads slow down the page loading
network bandwidth consumption
etc.

basically, all the reasons
why people started to
block ads in the first place

2

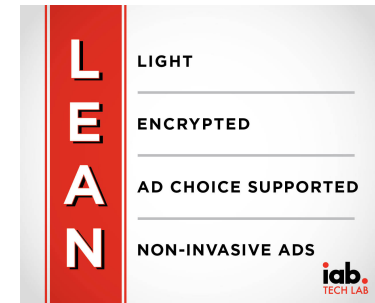
users were provided with radical tools
– i.e., tools that block ALL ads



Efforts for economic revival

1. various self-regulatory initiatives

- Acceptable Ads
- L.E.A.N. program
- YourOnlineChoices
- YourAdChoices
- DNT



- ## 2. tools with some fine-grained options for users
- users can white-list or black-list trackers (advertisers)
 - users can white-list or black-list a domain

Self-regulatory initiatives do not work



David Carroll
@profcarroll



 Follow

1 out of 122 Opt Outs were honored when I attempted a batch request with AdChoices. Self-regulation, folks.

Google, Microsoft, and Amazon are paying Adblock Plus huge fees to get their ads unblocked



Lara O'Reilly  

🕒 Feb. 3, 2015, 11:57 AM 🔥 9,150 💬 1

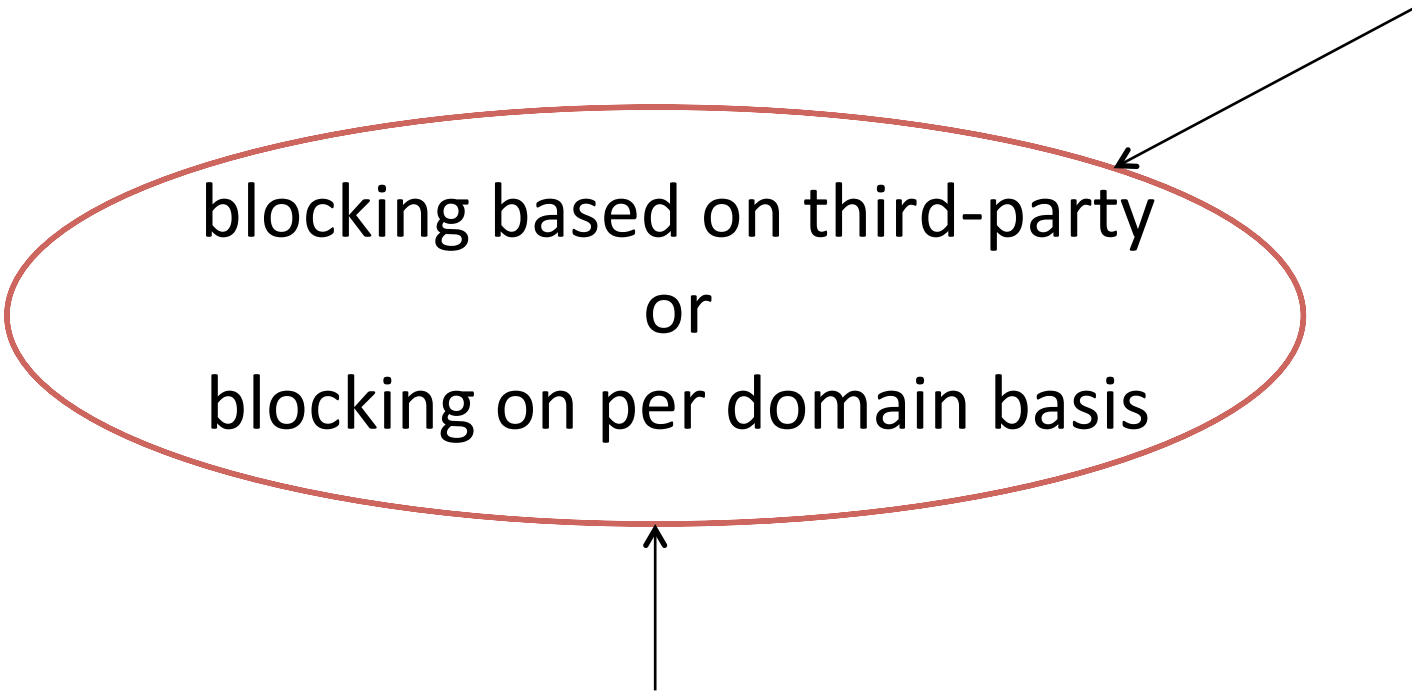
FEB 27, 2013 @ 07:58 PM 12,949 VIEWS

Google And Facebook Ignore "Do Not Track" Requests, Claim They Confuse Consumers

Lack of technical enforcement is the root problem!

Current fine-grained options

not usable



blocking based on third-party
or
blocking on per domain basis

do not make sense from user perspective
(users only care about their browsing profile)

Our approach


- **technical enforcement** of user choices
 - should not rely on self-regulation
- fine-grained options **over the reasons** why people block ads
 - that are **usable** and **do make sense** for users
- has the potential to **revive** ad-supported economic model

Fine-grained options (1)

- w.r.t. privacy
 - let users decide where they're ok or not to get tracked

Profile	Allowed?
Adult	✘
Sports	✔
Health	✘
Economy	✔
...	...

users would be able to **control** the profile trackers have



Fine-grained options (2)

- w.r.t. intrusiveness
 - maximum number of ads per page (on pages where users are ok to be tracked)
 - type, size, placement of ads

MyTrackingChoices (MTC)

MyTrackingChoices

fine-grained options **over privacy (tracking)**

Key working assumption

some categories (adult, health, etc.) are more privacy-sensitive than others (sports, fashion)

an attempt to find a **trade-off** between privacy and economy



Category	BlockTrackers
adult	<input checked="" type="checkbox"/>
agriculture	<input type="checkbox"/>
animals	<input type="checkbox"/>
architecture	<input type="checkbox"/>
arts & entertainment	<input type="checkbox"/>
automotive	<input type="checkbox"/>
business	<input type="checkbox"/>
careers	<input type="checkbox"/>
economics	<input type="checkbox"/>
education	<input type="checkbox"/>
family & parenting	<input type="checkbox"/>
fashion	<input type="checkbox"/>
folklore	<input type="checkbox"/>
food & drink	<input type="checkbox"/>
health & fitness	<input checked="" type="checkbox"/>

categories

decision

www.bbc.com/news/technology

BBC News Sport Weather Shop Earth Travel Capital

NEWS

Home Video World UK Business Tech Science Magazine Enter

FedEx Express

Technology

Nokia no longer the butt of tech jokes

MyTrackingChoices
Browse the Web in Peace

Page categorized as: "technology & computing", "arts & entertainment" and "news". If you disagree, please, [click here](#) to change.

Decision: 15 trackers were Not blocked on this page! (N)

Current page trackers: [view the list](#)

In future, for this page, you want to:

- block trackers
- allow trackers

[Configure your tracking choices \(Options page\).](#)

About [MyTrackingChoices](#). Read our [Privacy Policy](#).

[You think current page broke due to MyTrackingChoices?](#)

category

decision

The image shows a browser window displaying a BBC News article. The address bar shows the URL www.bbc.com/news/health-36479291. The page title is "Study says a major blood cancer i... diseases". The author is Adam Brimelow, a health correspondent for BBC News, and the article is dated 8 June 2016. A red oval highlights the "Health" category in the navigation menu. A MyTrackingChoices extension popup is visible on the right side of the page, showing the page's categorization, tracking decision, and options to block or allow trackers. Red arrows point from the labels "category" and "decision" to the corresponding text in the popup.

Study says a major blood cancer i... diseases

By Adam Brimelow
Health correspondent, BBC News

8 June 2016 | Health

category

decision

MyTrackingChoices

Browse the Web in Peace

Page categorized as: "arts & entertainment", "health & fitness" and "news". If you disagree, please, [click here](#) to change.

Decision: 7 trackers were Blocked on this page! (B)

Current page trackers: [view the list](#)

In future, for this page, you want to:

- block trackers
- allow trackers

[Configure your tracking choices \(Options page\).](#)

About [MyTrackingChoices](#). Read our [Privacy Policy](#).

[You think current page broke due to MyTrackingChoices?](#)

Categorization

- per web page basis (\neq per domain)

Benefits

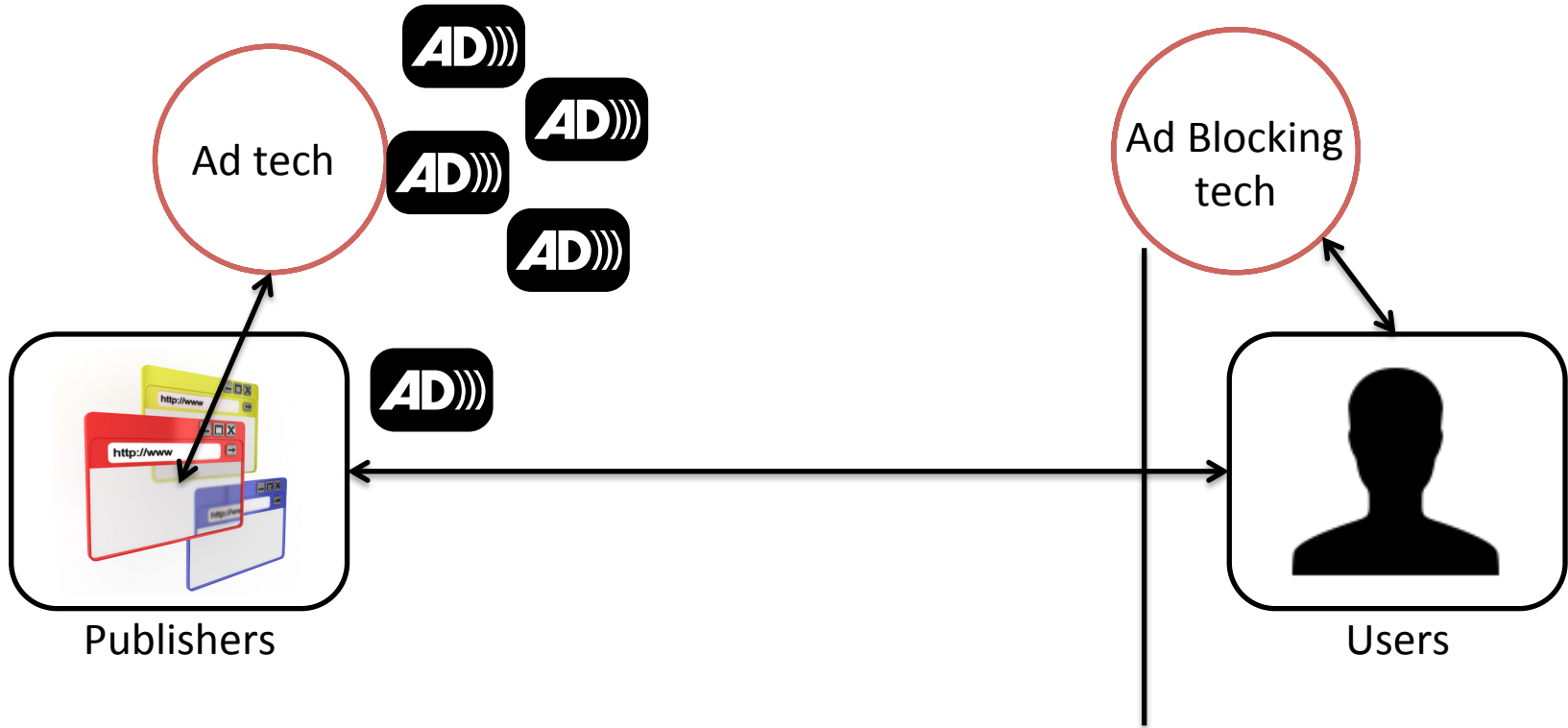
website: ads would be blocked only on sensitive-category web pages (most revenue preserved)

user: can technically control his profile yet continue receiving free content

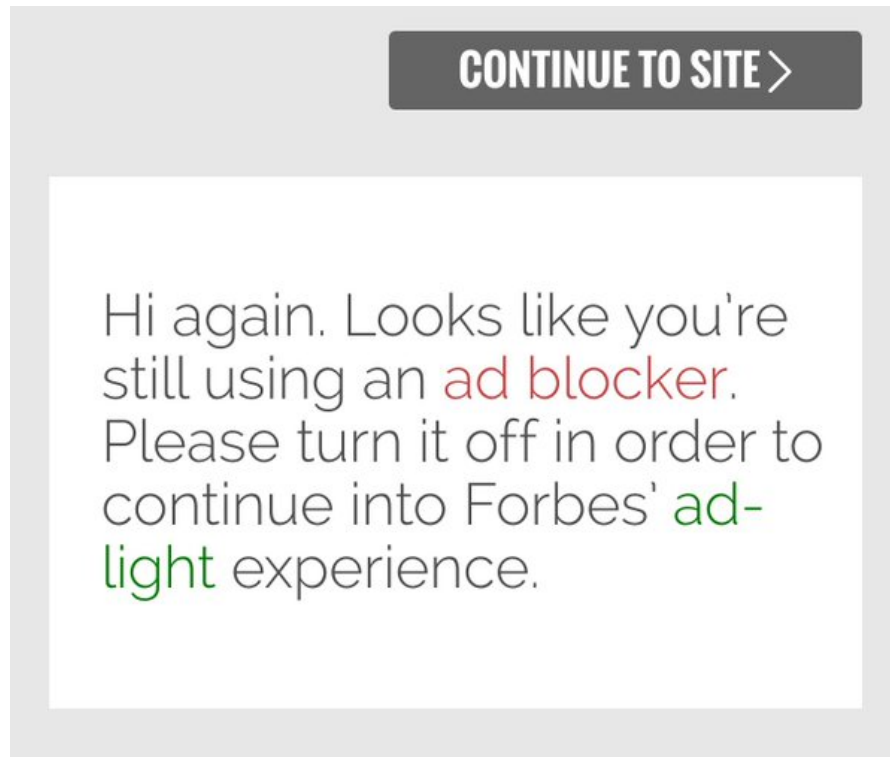
- A page is categorized **locally** based on
 - domains/subdomains/hostname
 - unigrams and bigrams

Can MTC pacify the Ad-Block War?

Ad-Block War



Ad-Block War



[1] *Adblocking and Counter-Blocking: A Slice of the Arms Race*, **arxiv, 2016**

[2] *A First Look at Ad-Block Detection – A New Arms Race on the Web*, **arxiv, 2016**

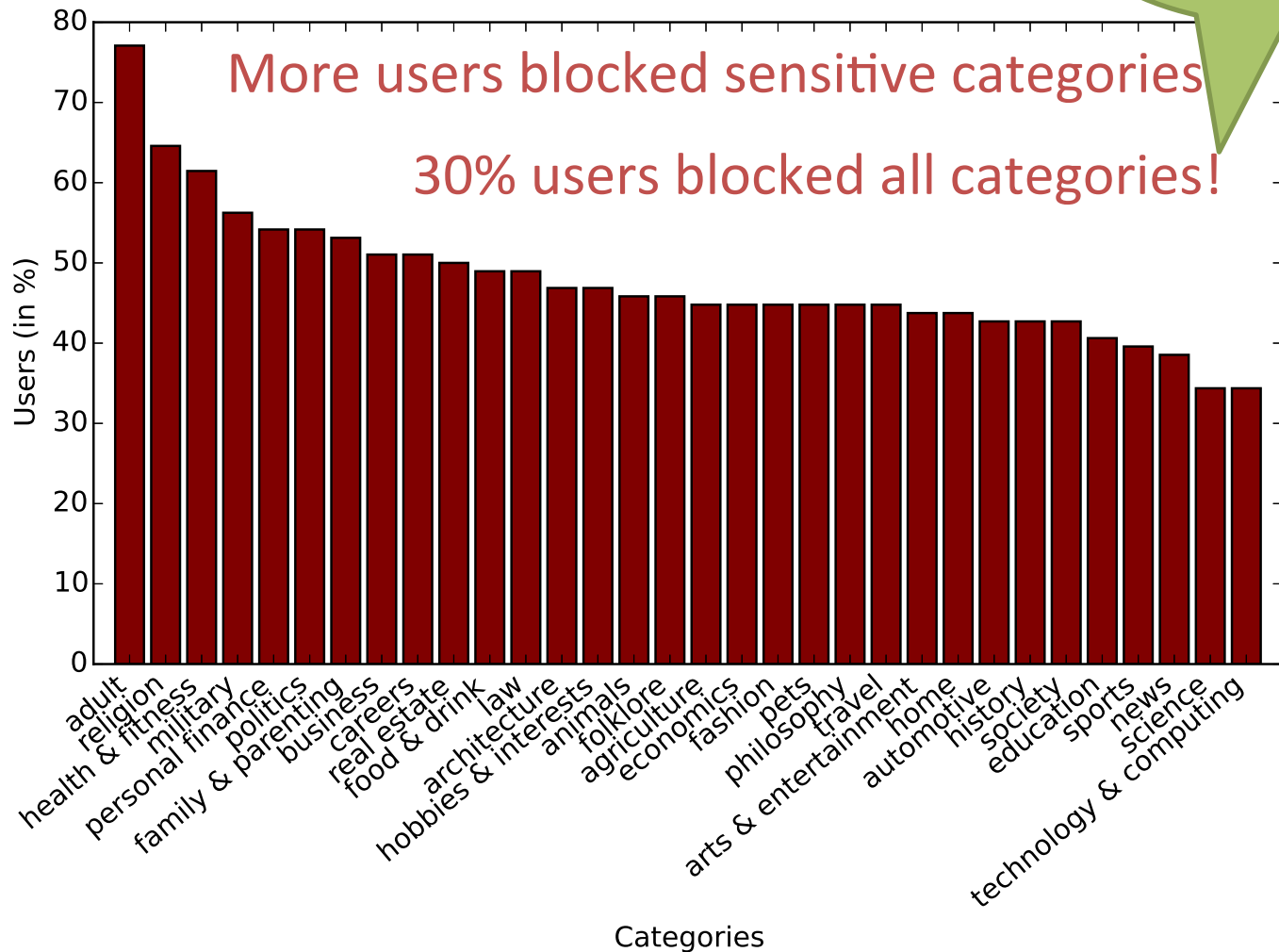
Evaluation of data from MTC users

Dataset

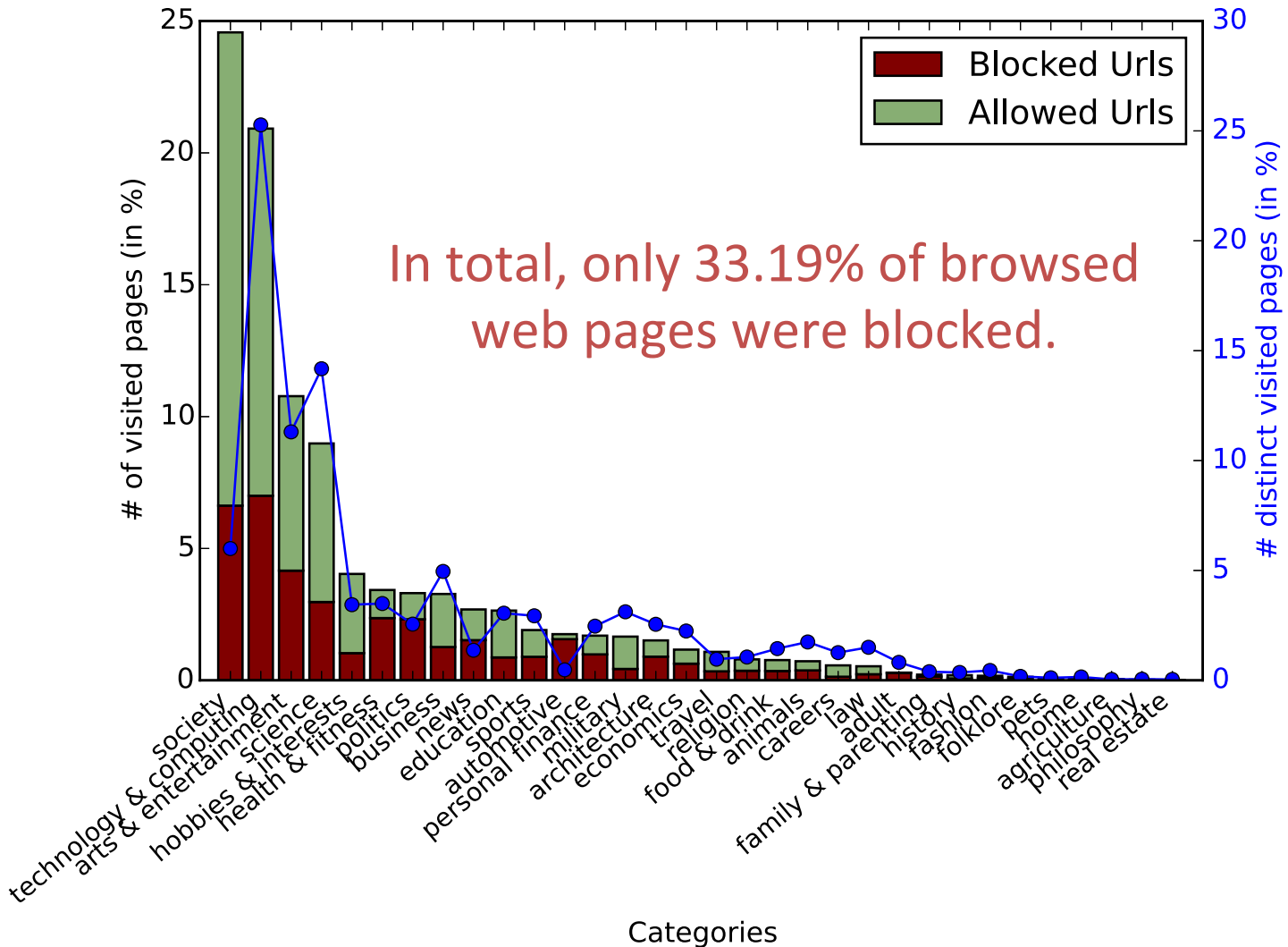
- 96 users
 - who browsed 20 or more web pages and configured, at least, once their tracking options
 - found the extension on Chrome Web Store independently or through various publicity channels
- From January 11 to February 20, 2016

Blocked categories

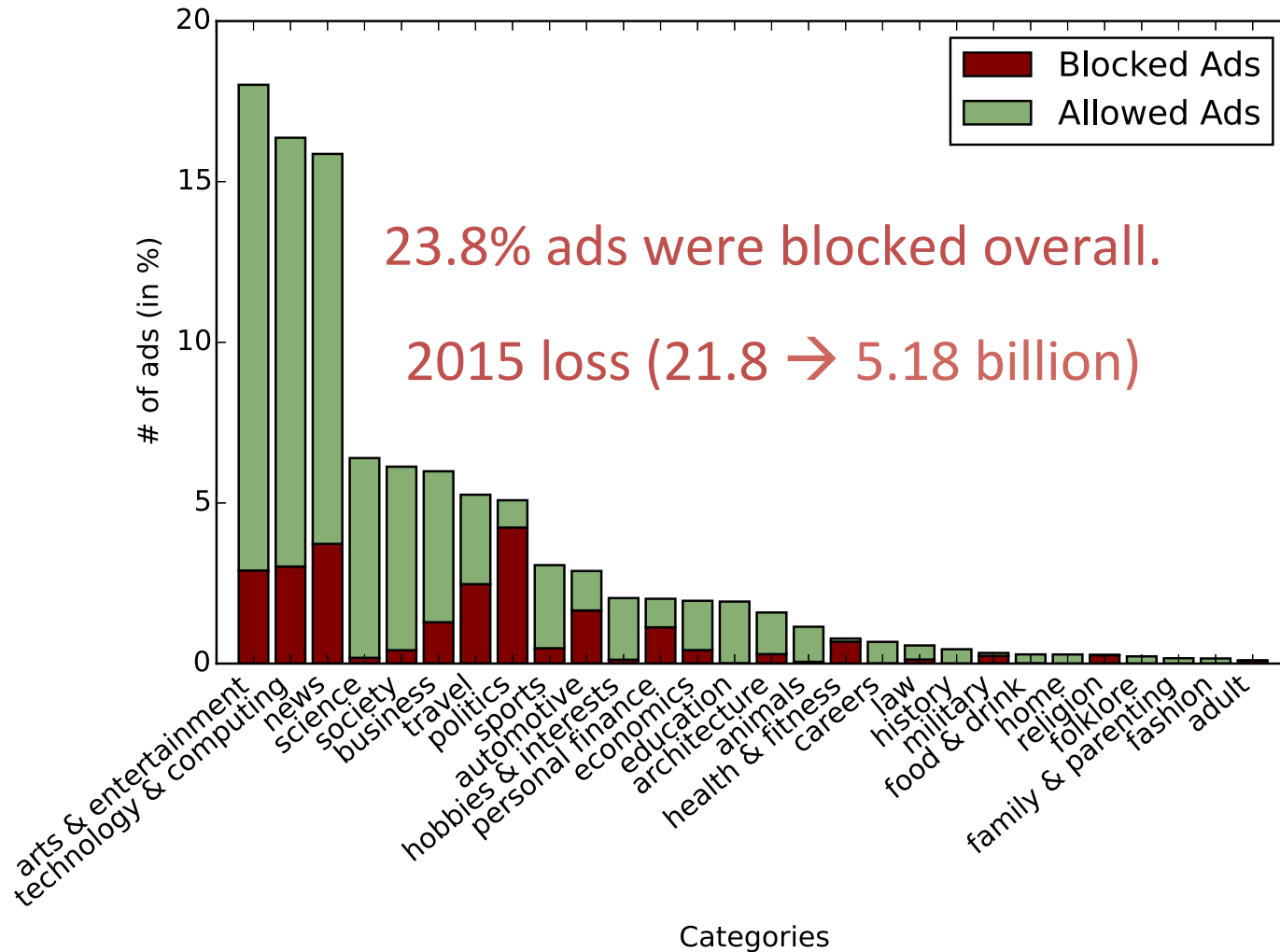
Other economic models needed!



Distribution Blocked/Allowed URLs



Distribution Blocked/Allowed Ads



Conclusions

- give users **fine-grained control** over **the reasons** why they started to block ads
 - win-win situation for all stakeholders
- provide users with tools that **technically enforce** their choices (**no self-regulation!**)
 - such efforts have the potential to pacify the current ad-block war

TODOs

- provide users with **fine-grained control w.r.t. intrusiveness**
- make MyTrackingChoices **a real product** (and not just research prototype)

Announcements

Please download, use, and **give feedback** on
MTC for Google Chrome

[https://chrome.google.com/webstore/detail/mytrackingchoices/
fmonkjimgifgcgeocdhhgbfoncmjclka?hl=fr](https://chrome.google.com/webstore/detail/mytrackingchoices/fmonkjimgifgcgeocdhhgbfoncmjclka?hl=fr)

Mozilla Firefox version coming soon!

Thanks for your attention!
Questions?

Project web page: <https://myrealonlinechoices.inrialpes.fr>
Watch on YouTube: <https://youtu.be/mzB1hXhqYBE>