

AMENDED Exhibit 744

PLAINTIFFS' OMNIBUS OPPOSITION TO DEFENDANTS' MOTIONS FOR SUMMARY JUDGMENT

Case No.: 4:22-md-03047-YGR

MDL No. 3047

In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation

YT Embeds - Web - Domain for "Player for Learning" - Design Doc

Self: [HYPERLINK ██████████], [HYPERLINK ██████████]

Last update: 2022-04-24

Author: ██████████

Status: Reviewed

Design review notes: [HYPERLINK ██████████]

Overview

██████████ More details about these domains in the [HYPERLINK ██████████]

Additional context:

- PRD: [HYPERLINK ██████████]
- All docs for PFL: [HYPERLINK ██████████]

Requirements

The primary requirements which are leading us consider a new domain:

- Blocking of youtube.com by schools
- "Data minimization"

Blocking of YouTube

There are assorted techniques used by administrators and school districts to block access to YouTube entirely or apply content-filtering, see [HYPERLINK ██████████]

"https://docs.google.com/██████████" and [HYPERLINK ██████████]

Commented [1]: I could not find in the linked docs, including the GoGuardian reference, details on how the systems that provide direct support for blocking YouTube work. For example, it seemed like GoGuardian also blocks youtube-nocookie, but can be enabled for particular channels.

What recommendations or documentation we would provide for schools using player for learning on how they would block the rest of YouTube? How will we ensure that playback within the learning player still works, or that the player will not inadvertently request streaming data from a youtube.com domain?

Commented [2]: Thanks, I've updated this doc and replaced the reference to GoGuardian with EdPuzzle. Agree that GoGuardian is more focused on fine-grained content control, often at the URL or channel level. Take a look at the EdPuzzle reference, it has a precise guideline for blocking YT Main but allowing youtube-nocookie for schools whose students use EdPuzzle but may be unable to view the content. Combining this info with some of the domains described on https://support.google.com/a/answer/6214622 should be our starting point for an official doc.

Commented [3]: There's also an interesting study conducted by the Google Classroom team in 2021 Q4 to better understand how various school admins manage access to YouTube. It doesn't have all of the details you want (the EdPuzzle reference I provided is still the canonical one), but it's an interesting read. Slide #22 is the summary / table: https://docs.google.com/██████████

[REDACTED] (study conducted by Google Classroom to understand how school admins manage access to YT) for details. In the US, the Children's Internet Protection Act ([HYPERLINK "https://www.fcc.gov/consumers/guides/childrens-internet-protection-act" \h]) mandates that K-12 schools and libraries use measures to protect students from obscene or harmful content online. So schools are incentivized to take appropriate measures.

Creation of a new domain for PFL doesn't provide a new solution, but rather ensures continuity of existing solutions that may rely on allowlisting youtube-nocookie.com and blocking youtube.com. For schools or the 3P ed-tech provider used at schools, the changes should be only trivial adjustments to DNS entries or other configurations. A canonical example is the documentation from "EdPuzzle", who are one of the top partners planned for PFL usage and integration:

"How to whitelist YouTube at your school"
[HYPERLINK "https://support.edpuzzle.com/hc/en-us/articles/360021043151-How-to-whitelist-YouTube-at-your-school" \h]

Screenshot of documentation for posterity -

Edpuzzle Help Center > For Teachers > Troubleshooting

How to whitelist YouTube at your school

We take our students' privacy very seriously. That's why when students watch a video on Edpuzzle, they'll be streaming from www.youtube-nocookie.com, while teachers will continue to stream videos from www.youtube.com.

To use Edpuzzle at your school, you'll need to ask your IT admin for assistance. You can share our [spec sheet](#) with them as well as the instructions on how to configure your filters as explained below:

Filter configuration for students

1. Block www.youtube.com.
2. Whitelist www.youtube-nocookie.com.

This means that on the Edpuzzle student site, students will only be able to view videos which have been assigned by a teacher. They will NOT be able to search for videos directly on YouTube.

Visit the [test student page](#) to test the embedded videos for your students.

Filters configuration for teachers

1. Allow access to www.youtube.com.
2. Allow access to www.youtube-nocookie.com.

This way, teachers will be able to search for videos on Edpuzzle and assign them to students.

Visit the [test teacher page](#) to test the embedded videos for teachers.

Please keep in mind that if your students are using the Android or iOS app, they'll be streaming directly from www.youtube.com, so you'll need to whitelist it.

If you have any more questions on how to configure your filters in Edpuzzle, please email us at support@edpuzzle.com and let us know how your school's filters are configured, and we'll be happy to help you out.

📎 [Edpuzzle - Spec Sheet.pdf \(200 KB\)](#)

📎 [Hoja de especificaciones de Edpuzzle.pdf \(40 KB\)](#)

Besides this technique of blocking YouTube but allowing the youtube-nocookie domain, other techniques are described here: [HYPERLINK

"https://docs.google.com/ [REDACTED]

[REDACTED] \h]

In particular, there seem to be a number of individual parents who are struggling to find solutions - they block YouTube but then realize Classroom and other Google products no longer function properly. We could provide formal documentation to help with this case as well, similar to what "EdPuzzle" has done.

Data Minimization

Requirements for "data minimization" originate from Google Classroom, although broadly "user privacy" is a concern for 3P edu partners as well. This is another reason why some 3Ps have opted to use youtube-nocookie.com.

As a Google Workspace service, Google Classroom must comply with the Google Workspace "[

HYPERLINK [REDACTED]

In particular, there are new "[

HYPERLINK [REDACTED]

requirements that were just published in late 2021 / early 2022 and pertain specifically to embedded services that are "Workspace Additional Services" but not "Workspace Core Services". This is an important distinction, since YouTube has always been categorized as an "[HYPERLINK

"https://support.google.com/a/answer/6356441" \h]" and not a "[HYPERLINK

"https://workspace.google.com/intl/en/terms/user_features.html" \h]".

(Side note: the new guidelines were reviewed by YT leads in 2021 through various meetings and discussions. There were many iterations, but the final working draft was [HYPERLINK

"https://docs.google.com/ [REDACTED]

[REDACTED] \h], which was also converted into a [HYPERLINK

"https://docs.google.com/ [REDACTED]

[REDACTED] \h] by the YT team for convenience of discussing individual requirements.)

The requirements discuss usage of Customer Data and Service Data, and what it can be used for if anonymized (preferred) versus pseudonymized. [REDACTED]

Given this, there are two important requirements and limitations to consider:

1. Ads: data cannot be used for ads targeting or ads personalization.

The PFL player itself will be ads-free. No ads will be shown [REDACTED]

Commented [4]: How do these guidelines translate to other Google services? That is, what does Google web search history do? It seems like these users are logged in to Google, hence they can use Google classroom, and presumably youtube.com. Do we end up having all of these requirements anyway? That is, what's special - the GAIA ID, or the usage within Google classroom?

Commented [5]: Apologies this section was not more fleshed out when you read the doc, it was quite sparse. I've now finished adding ample details, please re-read if you have time. To briefly answer your questions:

- 1) The guidelines are go/Workspace-Embedded-Features. Other Google services must be considered on a case-by-case basis, it depends on whether they are "core services" or "additional services" like YT. Based on the description at the top of go/Workspace-Embedded-Features, "Search" sounds like it is also an "additional service", in which case it would be subject to the same requirements as YT if embedded in a WS core service.
- 2) Yes, Classroom users are logged into Google and Classroom (by necessity), but not necessarily to YouTube. If the YT service=OFF (see explanation in doc), then access to YT Main is blocked and embeds is treated as logged-out. This is a common scenario and was the focus of the Project Pierce/Beyonce (led by YT Identity team) last year.
- 3) I think what's special is usage within Classroom as an embedded, non-core service. What I see as the ramifications of that upon GAIA have been added to the doc, just below.

Commented [6]: To build on what [REDACTED] has said: these requirements mean essentially that Dasher Core Service data handling requirements apply to any 1p embed in a Dasher Core Service. So YT web embeds in docs and Classroom. If Search has an embed and Search isn't already a core service, then these requirements newly apply to them as well.

[REDACTED]

More on this later.

2. Product Improvements

[REDACTED]

Commented [7]: Do we want resume-from-last-playback to work, or badging (e.g. of search results)

Summary of our plan for achieving data-minimization that was received with YT Identity and leadership (CoreX Identity Review) in December 2021:

[HYPERLINK

"https://docs.google.com/[REDACTED]

[REDACTED] \h]

GWFE + Project Beyonce/Pierce

Terminology:

- GWFE = [HYPERLINK "https://support.google.com/a/answer/7370133" \h]
- Project Beyond/Pierce was a remediation completed in 2021 Q3 to ensure data-processing compliance when the YT service=OFF. (The following docs are "*Need To Know*")
 - [HYPERLINK "https://docs.google.com/[REDACTED] \h]
 - [HYPERLINK "https://docs.google.com/[REDACTED] \h]

Background:

When the domain admin has disabled the YT service, embedded YouTube will still be available in Classroom, but in a logged-out capacity.

[REDACTED] [HYPERLINK
 "https://support.google.com/a/answer/6356441" \h]

At a minimum, we need to continue enforcing the changes made for Beyond/Pierce in PFL. In addition, the agreement with Classroom and Legal from 2021 Q3 [REDACTED - PRIV

[REDACTED - PRIV

Recommendation: New YT Base Domain

Summary of requirements from above:

1. Allow for blocking Main YouTube but allow embedding
2. Google Workspace Embedded Feature Data Handling Appendix: ensure no targeted ads
3. GWFE: ensure no targeted ads
4. GWFE: allow embedding when YT=OFF, but in a logged-out manner

We think the best approach to meet these requirements is the creation of a new base domain that will be used to host PFL. This will likely be one of the following:

- youtubeeducation
 - Currently favored by the Marketing team, want to reserve youtube-learning in case its needed for other features.
 - Note this domain was used in the distant past, so there could be some internal confusion if we start using it again. See [HYPERLINK \h] [REDACTED]
- youtube-learning

Pros

1. Meets all requirements.

Cost

Creating and maintaining a new domain has implications on many YT teams. To name a few:

- SRE
- Trust and Safety / Abuse
- Logs Processing
- Ads
- Testing team (QA)
- allowlists or denylists
- Data Science / anyone analyzing traffic by domain

For services with an allowlist / denylist that includes "youtube.com" or similar variations, adding the new domain is easy but there will likely need to be case-by-case analysis to determine what the behavior or policy should be on the new domain. Details about some of the allow/denylists is here [[HYPERLINK](#)] although there are likely other lists not owned by Embeds that would need to be modified.

Initial Setup

In contrast to the initial setup of YouTubeEdu / YouTubeEducation in ~ 2012 and YouTube-NoCookie in 2009, we believe the setup will now be more straightforward. Why?

- Recent example of YouTubeKids domain from 2018.
 - [More documentation and knowledge](#)

While this was never achieved for youtube-nocookie or youtubeedu, however the Kids team did accomplish this:

- [REDACTED]

- [REDACTED]

More details here:

- [HYPERLINK [REDACTED]]
- [HYPERLINK [REDACTED]]

// TODO: estimate?

Client Request Filtering

This approach has pros and cons, and would require time to build and maintain.

// TODO: check with Kids team if they ever considering doing something like this

Ongoing Maintenance

We expect ongoing maintenance to be low/medium-cost, which is the case with youtube-nocookie and youtubekids over several years.

However, this assumes we have a stable and reliable means of restricting which endpoints and requests can be made from the player.

This has happened previously for youtube-nocookie. For example, this situation from 2022:

- Ad requests: [REDACTED]
HYPERLINK [REDACTED]

Commented [10]: not sure about the cost to ensure ongoing compliance to existing and new regulations.

Since this is signed out only domain with minimal feature / data collection, maybe it's not too bad. But may worth dig a little deeper in what the long-term compliance cost will be.

Commented [12]: Thanks, I've updated the doc to clarify this. I think some categories of requests could be

Commented [13]: So this feature ends up being a constraint or thing that we need to be aware of as we make adjustments to how watch history is implemented, correct?

Commented [14]: This explanation and the "client request filtering" section are in a similar conceptual space, might be worth re-organizing this small section to call out: "Mitigating cross pollination"

Impact To Embeds Ecosystem

Commented [15]: is it useful to name youtube-learning.com to something more generic so that it could potentially be used for similar use cases in the future?

Commented [16]: Thanks, I added a section "Generic Domain" just below. The Embeds team has considered this, yes. At first it seem like a good idea and would

Player For Publishers (PFP)

Generic Domain

Prior art

Base domain

There are several prior-art examples of YouTube creating separate domains in order to host special-purpose products:

- youtube-nocookie.com
- youtubeedu.com and youtubeeducation.com

Commented [17]: I'm not sure if we ever used it, but according to whois, we also own youtubelearning.com
<https://whois.corp.google.com/youtubelearning.com>

- youtubekids.com

Chronology and further details are available in [HYPERLINK]

Subdomain

Youtube also maintains tens of different subdomains. Many of those are simple marketing pages or redirects:

- youtubegaming.com
- youtubego.com
- kids.youtube.com

However, there are many subdomains that provide unique functionality and are mapped to distinct YouTube clients (aka device interfaces).

- m.youtube.com
- music.youtube.com
- studio.youtube.com
- tv.youtube.com

Legacy subdomains that previously pointed to distinct clients:

- gaming.youtube.com

Generally Embeds is only enabled on Main App youtube.com.

See details here: [HYPERLINK]

Alternatives Considered: Domain

YouTube Subdomain

Instead of creating a new base domain, we could instead create a new subdomain like "pfl.youtube.com"

Commented [18]: Another alternative to flush out here is what [REDACTED] brought up around hosting embeds on a

Commented [19]: Thanks for the reminder. I just added a new section "serve embeds from a google domain" that covers this. Still needs complete exploration, but captured the basic idea.

Commented [20]: In terms of logging though, I think it

Not sure if you and [REDACTED] discussed something more specific though as relates to logging?

Pros

1. Standard practice

Follows standard practice used by YouTube (see the "[[HYPERLINK V](#) ██████████] ██████████" section) and Google. Much more common than creating a new base domain.

2. Blocking YouTube

Provides a distinct domain for partners to allowlist in their firewall rules, while still being able to block regular YouTube.

Cons

1. Similar amount of work as creating a new base domain, but doesn't provide the user-identity siloing that a base domain would.

YouTube-NoCookie

PFL partners could use the existing youtube-nocookie.com domain as a means of allowing the embedded player to function but still blocking YouTube Main. Some PFL partners already use this type of configuration.

Donna

HYPERLINK

111

Commented [23]: I reworded and restructured the text before and after this to try and help explain. In summary:

2. Compatible with [HYPERLINK [REDACTED]

Cons

1. Overloaded use-cases

2. Viewcounting

HYPERLINK [REDACTED]

[HYPERLINK [REDACTED]

Commented [24]: [REDACTED]

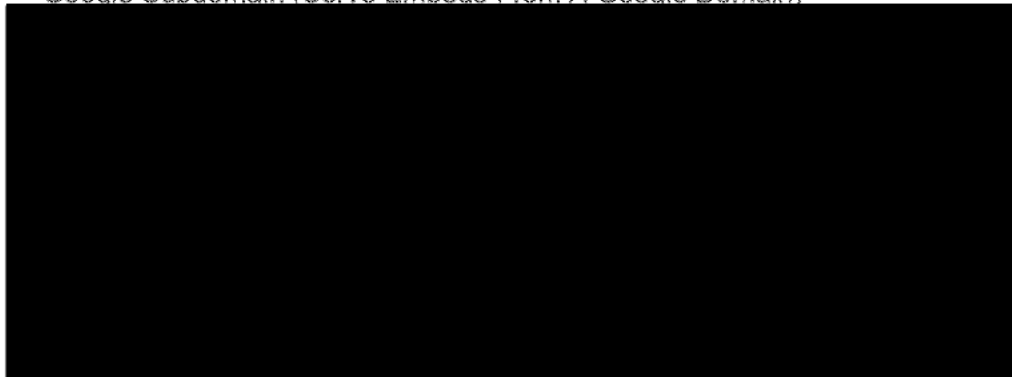
Lack of viewcounting could be mitigated to some extent by including "x-goog-visitor-id" on VSS requests, which would ensure that the per-player-instance visitor id that is already set and held

See [HYPERLINK [REDACTED]

and [HYPERLINK [REDACTED]

This is easy enough to fix, just noting the current state and reasons for it.

Google Subdomain (Serve Embeds From A Google Domain)

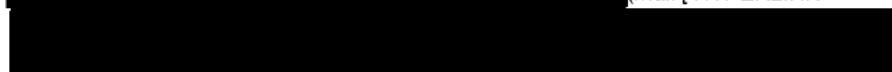


3. Solves other requirements, beyond PFL. For example:

- [REDACTED]

[HYPERLINK

(mail [HYPERLINK



Cons

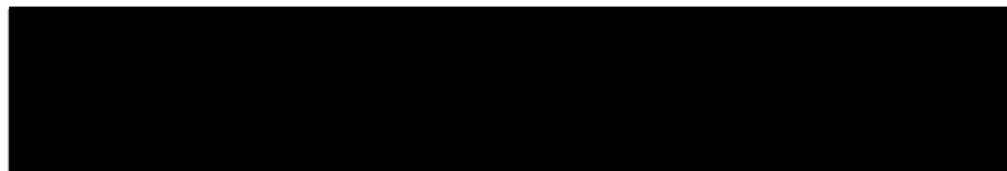
1. Could be equally expensive to build and maintain as compared to doing the equivalent work described in other solutions in this doc.
2. Cookie behavior could be complex to maintain. Possible unintended side-effects we didn't anticipate.



Status of this option -

- 2022-04-23: A more detailed consideration of this option has been requested and is in-progress. Doc will be linked from here once ready.

Alternative Considered: Data Handling



Enforce Data Usage Restrictions From Backend Controls: v1 - EOM

We can think of this solution as "use EOM" or "use aspects of EOM".

HYPERLINK

Pros

2. Reuse: Promotes reuse to solve similar problems.

Cons

1. Policy misalignment & overloading

2. Cookie complexity / cookie clearing

[HYPERLINK

Commented [29]: I tweaking the wording here, and will adjust in a few other places throughout the doc.

Commented [33]: ah, i think you address this same but not the same in a note below: "cookie complexity" thx.

Commented [35]: Re-anchored.

Enforce Data Usage Restrictions From Backend Controls: v2 - Crosswalk

This option was discussed at length (mostly verbal, refs?) in 2021 Q4 and many folks wondered if this would be sufficient in terms of compliance with Google Workspaces data-handling requirements.

```
// TODO: finish this, why would this approach be insufficient
```

Incognito Mode

Background:

[HYPERLINK

[HYPERLINK

Pros

1. Similar to ignoring visitor id

This is a long-standing approach that is described here:

[HYPERLINK

[REDACTED]

Cons

1. Complex

[REDACTED]

2. Viewcounting

[REDACTED]

Do Nothing and Rely On Browser Policy

[REDACTED]

More details about cookie-blocking and restrictions can be found here: | [HYPERLINK](#)

[REDACTED]

Cons

This is ultimately an unreliable solution that would be inconsistent across browsers. It's also a fragile approach because it assumes browser policy won't change again in the future in a way that could be misaligned with PFL principles.

Appendix: Prior Art

References for the prior art examples. For each domain, the key resources are listed in approximate chronological order from oldest to newest.

YouTubeEdu / YouTubeEducation

Circa 2012.

- 2012-06: [HYPERLINK [REDACTED]
"https://docs.google.com [REDACTED]
[REDACTED] \h]
 - Product review of proposal to create new domain.
- 2012-08: [HYPERLINK [REDACTED]]
 - Ticket created for deciding on best name for new domain.
- 2012-09: [HYPERLINK [REDACTED]
"https://docs.google.com [REDACTED]
[REDACTED] \h]
 - Discussion of moving away from the original "edu filter" solution from 2011 ("YouTube for Schools", aka "YT4S") that was based on url-param / token. This is the beginning of considering a new domain.
- 2012-09: [HYPERLINK [REDACTED]
"https://docs.google.com [REDACTED]
[REDACTED] \h]
 - Work scope of new domain wiring throughout YT.
- 2012-11-28
 - "www.youtubeedu.com" and "www.youtubeeducation.com" added to GFE mapping by [HYPERLINK [REDACTED]
- 2013-03-25
 - "youtubeedu.com" and "youtubeeducation.com" (without 'www' subdomain) added to GFE mapping by [HYPERLINK [REDACTED]
- 2013: [REDACTED]
 - Launch of YouTubeEducation.com domain
- 2013: [HYPERLINK [REDACTED]
"https://docs.google.com [REDACTED]
[REDACTED] \h]

- Exploration of expanding functionality of YouTubeEducation.com beyond just the /embed use-case.

- 2014:[HYPERLINK

"https://docs.google.com [REDACTED]

[REDACTED] \h]

- [HYPERLINK

"https://docs.google.com [REDACTED]

[REDACTED] \h]

- 2015 ~ 2018

- Domains become unused / fall into disrepair, not sure when.
 - April 2018: as part of cleaning-up Web "trusted loaders" logic, YouTubeEducation domains found to be in bad state. DNS still controlled by Google, but mapped to IP address that is owned by Amazon
 - [HYPERLINK [REDACTED]]: "remove legacy trusted loaders"
 - [HYPERLINK [REDACTED]]: "clean-up youtubeeducation.com"
 - When and why did the domains fall into disrepair?
 - MRM being successful alternative to YT4S?
 - Schools discovered alternative of using youtube-nocookie.com? Could continue to block regular YouTube and allow youtube-nocookie.com instead.

YouTubeKids

Circa 2018.

- 2018-05 ~ 2018-06: docs that led to the decision to create new domain

- [HYPERLINK

"https://docs.google.com [REDACTED]

[REDACTED] \h]

- Started the discussion

- [HYPERLINK "https://docs.google.com [REDACTED]

[REDACTED] \h]

- Design review #1 notes

- [HYPERLINK

"https://docs.google.com [REDACTED]

[REDACTED] \h]

- follow-up doc to discuss risk tradeoffs, including subdomain vs. TLD

- [HYPERLINK "https://docs.google.com [REDACTED] \h]
 - Design review #2 notes
- [HYPERLINK "https://docs.google.com [REDACTED] \h]
 - 1-pager of resolved discussion points
- [HYPERLINK "https://docs.google.com [REDACTED] \h]
 - Slides that summarize Product and Technical background, as well as solutions.
- 2018-06: [HYPERLINK " [REDACTED]
 - Discussion between Kids and SRE regarding new domain setup

YouTube-NoCookie

Circa 2009.

- 2009-02-10: [HYPERLINK [REDACTED]
 - DNS entry configs created. Associated ticket: [REDACTED]
- 2009-02-20: [HYPERLINK [REDACTED]]
 - Launched in support of the Whitehouse / US elections.
- 2009-03-02: [HYPERLINK "https://publicpolicy.googleblog.com/2009/03/white-house-videos-on-youtube.html" \h]
 - Google Public Policy Blog post written to address criticism about whitehouse.gov usage of embedded YouTube videos and the associated cookies that are created.
- 2011-04-10: [HYPERLINK [REDACTED]
 - Conversation about youtube-nocookie being down, usage by US .gov sites, and who within YT owns the domain.

I wasn't able to find any information or discussions about creation of the new domain and associated pros / cons that were considered.