Before the
FEDERAL TRADE COMMISSION
Washington, DC 20584

In the Matter of)
)
Request to Investigate Google's Unfair and)
Deceptive Practices in Marketing Apps for)
Children)
)

By
CAMPAIGN FOR A COMMERCIAL-FREE CHILDHOOD (CCFC)
CENTER FOR DIGITAL DEMOCRACY (CDD)
BADASS TEACHERS ASSOCIATION
BERKELEY MEDIA STUDIES GROUP
COLOR OF CHANGE
CONSUMER ACTION
CONSUMER FEDERATION OF AMERICA
CONSUMER WATCHDOG
DEFENDING THE EARLY YEARS
ELECTRONIC PRIVACY INFORMATION CENTER
MEDIA EDUCATION FOUNDATION
NEW DREAM
OPEN MEDIA AND INFORMATION COMPANIES INITIATIVE (OPEN MIC)
PARENTS ACROSS AMERICA
PARENT COALITION FOR STUDENT PRIVACY
PARENTS TELEVISION COUNCIL
PEACE EDUCATORS ALLIED FOR CHILDREN EVERYWHERE (P.E.A.C.E.)
PRIVACY RIGHTS CLEARINGHOUSE
PUBLIC CITIZEN
STORY OF STUFF
TEACHERS RESISTING UNHEALTHY CHILDHOOD ENTERTAINMENT (TRUCE)
U.S. PIRG

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Summary

Campaign for a Commercial-Free Childhood (CCFC), Center for Digital Democracy (CDD), their counsel, the Institute for Public Representation at Georgetown Law, along with Badass Teachers Association, Berkeley Media Studies Group, Color of Change, Consumer Action, Consumer Federation of America, Consumer Watchdog, Defending the Early Years, Electronic Privacy Information Center, Media Education Foundation, New Dream, Open Media and Information Companies Initiative (Open MIC), Parents Across America, Parent Coalition for Student Privacy, Parents Television Council, Peace Educators Allied for Children Everywhere (P.E.A.C.E.), Privacy Rights Clearinghouse, Public Citizen, Story of Stuff, Teachers Resisting Unhealthy Childhood Entertainment (TRUCE) and U.S. PIRG request that the FTC investigate how Google is marketing apps in its Play Store that are directed at children. Prompted by several recent academic studies finding that many Play Store apps Google identifies as expressly suitable for children are not actually appropriate for them, we conducted a review that reflected similar findings. Thus, we ask the FTC to investigate whether Google is misrepresenting to parents that the apps in the Family section of the Play Store are child-appropriate when they are not, in violation of Section 5 of the FTC Act.

Given the enormous volume of apps available on the Play Store, parents necessarily rely on Google's categorization of apps and age ratings to select Android apps that are safe and appropriate for their children. Google tells parents in its *Parent Guide* and elsewhere that they can find family-friendly content in the Family section of the Play Store or by looking for the family-friendly star. Frequently, the star is accompanied by the age range that the app was designed for, such as under age 8.

Parents reasonably expect that an app directed to children would comply with the Children's Online Privacy Protection Act (COPPA). They do not expect that children's apps will engage in deceptive or unfair advertising practices or include content inappropriate for children. Moreover, Google's eligibility criteria for inclusion in the Family category requires that apps comply with COPPA, as well as Google's policies regarding advertising and content.

Yet, as detailed in this request for investigation, many apps in the Google Play Store Family section are not appropriate for children and violate Google's own criteria for inclusion. Many apps violate COPPA by collecting personal information from children without giving notice to parents and obtaining verifiable parental consent. Some apps that Google promotes as family-friendly also deploy unfair and deceptive advertising practices—such as manipulating kids to watch ads or make purchases in order to advance in a game. Our research also revealed that many apps feature inappropriate content for children.

Google has known about several of these problems for some time, yet has not taken adequate steps to enforce its own criteria for developers. Thus, it is imperative that the FTC swiftly investigate Google's Play Store Family operations and stop these deceptive practices so that children will be protected.

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Campaign for a Commercial-Free Childhood ("CCFC") and Center for Digital

Democracy ("CDD") by their attorneys, the Institute for Public Representation ("IPR"), along

with Badass Teachers Association, Berkeley Media Studies Group, Color of Change, Consumer

Action, Consumer Federation of America, Consumer Watchdog, Defending the Early Years,

EPIC, Media Education Foundation, New Dream, Open MIC, Parents Across America, Parent

Coalition for Student Privacy, Parents Television Council, P.E.A.C.E., Privacy Rights

Clearinghouse, Public Citizen, Story of Stuff, TRUCE and U.S. PIRG (collectively "Child

Advocates") ask the Federal Trade Commission ("FTC") to investigate and bring an enforcement

action against Google for engaging in deceptive trade practices in violation of Section 5 of the

FTC Act.[1]

I.   Background

On October 30, 2018, CCFC, CDD and 20 other organizations asked the FTC to

investigate unfair and deceptive practices of apps marketed to children on Google's Play Store.[2]

This request was based on a major new study conducted by the University of Michigan C.S. Mott

Children's Hospital: *Advertising in Young Children's Apps: A Content Study* ("Michigan

Study").[3] Jenny Radesky, M.D., a developmental behavioral expert and pediatrician, and lead

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[1] 15 U.S.C. § 45(a).

[2] *Letter to Donald S. Clark from Angela J. Campbell,* (Oct. 30, 2018),
https://www.commercialfreechildhood.org/sites/default/files/devel-generate/piw/apps_FTC_letter.pdf.
(Child Advocates October Letter). Child Advocates previously asked the FTC to investigate COPPA
violations and unfair and deceptive practices in connection with both YouTube and the YouTube Kids
app. *Request to Investigate Google's YouTube Online Service and Advertising Practices for Violating the
Children's Online Privacy Protection Act* (Apr. 9, 2018); *Request for Investigation into Google's Unfair
and Deceptive Practices in Connection with its YouTube Kids App,* (Apr. 7, 2015, supplemented on May
19, 2015 and Nov. 24, 2015).

[3] Marisa Meyer, Victoria Adkins, Nalingna Yuan, Heidi M. Weeks, Yung-Ju Chang, Jenny Radesky,
Advertising in Young Children's Apps: A Content Study, J. of Developmental & Behavioral Pediatrics
(Oct. 29. 2018).

author of the 2016 American Academy of Pediatrics policy statement, *Media and Young Minds*,[4] was the study's senior author. The study analyzed the content of 135 apps in the Play Store that were marketed to or played by children under 5 years. It found that 95% contained some kind of advertising, while 54% contained disruptive pop-up ads or ads that the child user couldn't easily close.[5] It also found that the most popular children's apps frequently used techniques designed to manipulate children to make in-app purchases or watch ads.[6]

Since all of the apps examined in the Michigan Study were from the Play Store, we investigated Google's role in promoting these apps to families. From September to December 2018, we reviewed the descriptions of hundreds of apps listed in the Family section of the Google Play Store. We used AppCensus[7] to determine what personal information the apps were collecting from children and whether they transmitted personal information to third parties. We reviewed the websites and privacy policies of both the app developers and third parties receiving personal information to see what personal information they said they collected and how they used it. Finally, we downloaded and played 75 apps from the Family section, and in many cases, recorded the app being played or took screenshots. While we did not select the apps randomly, we did try to include a diversity of types, such as apps made by different developers, both large and small, based in the United States and abroad. We identified many problematic apps, and the apps cited as examples in this Request for Investigation are only a small number of them, and by

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[4] AAP Council On Communications And Media, *Media and Young Minds*, Pediatrics (2016), http://pediatrics.aappublications.org/content/pediatrics/138/5/e20162591.full.pdf.
[5] *Id.* at Table 1.
[6] *Id.* at 3-5.
[7] AppCensus is a database established by international collaboration of researchers with combined expertise in the fields of networking, privacy, security, and usability. "AppCensus analyzes Android mobile smartphone apps and reports the private and personally identifying information that different apps access and share with other parties over the Internet, who are usually ads and analytics services." https://www.appcensus.mobi/about.

no means represents an exhaustive survey. Our findings reflected those of the researchers in laboratory settings, like the Michigan study and others.

A. **Children's apps have a history of violating COPPA**

FTC staff released its first survey of children's apps in February 2012.[8] That survey found that "parents generally cannot determine, before downloading an app, whether the app poses risks related to the collection, use, and sharing of their children's personal information." It observed that

> Although the app store developer agreements require developers to disclose the information their apps collect, the app stores do not appear to enforce these requirements. This lack of enforcement provides little incentive to app developers to provide such disclosures and leaves parents without the information they need. As gatekeepers of the app marketplace, the app stores should do more.[9]

A follow-up study released in December 2012 found little improvement.[10] Unlike the earlier survey, FTC staff tested the apps' data practices and compared them to what was said in their privacy policies. The FTC found that "many apps included interactive features or shared kids' information with third parties without disclosing these practices to parents."[11]

An FTC blog post in 2015 noted that more apps were posting privacy policies, but concluded that parents would still struggle to understand what the policies were actually

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[8] FTC, *Mobile Apps for Kids: Current Privacy Disclosures are Disappointing* at 3, https://www.ftc.gov/sites/default/files/documents/reports/mobile-apps-kids-current-privacy-disclosures-are-disappointing/120216mobile_apps_kids.pdf (Feb. 2012).
[9] *Id.* at 3 (footnote omitted).
[10] FTC, *Mobile Apps for Kids: Disclosures Still Not Making the Grade* 4 (Dec. 2012), https://www.ftc.gov/sites/default/files/documents/reports/mobile-apps-kids-disclosures-still-not-making-grade/121210mobilekidsappreport.pdf ("[d]espite many high-visibility efforts to increase transparency in the mobile marketplace, little or no progress has been made").
[11] *Id.* at 1.

disclosing.[12] The problems the Commission noted—insufficient disclosures and lax enforcement from the app stores—are the same ones that we encountered in our investigation and detail in this complaint.

The FTC has previously taken enforcement actions against developers of children's apps. In 2014, it filed a complaint against the app developer TinyCo, Inc. alleging that many of the company's popular apps, which were downloaded more than 34 million times across the major mobile app stores, targeted children.[13] In 2015, it filed complaints against two app developers— LAI Systems and Retro Dreamer—alleging they allowed advertisers to use persistent identifiers to serve advertising to children.[14] In 2016, the FTC settled a case against the Singapore-based mobile advertising company InMobi for $950,000 for tracking the locations of consumers, including children, without their knowledge and consent and even in cases where consumers had denied permission to access location data.[15]

Despite these enforcement actions, COPPA violations in children's apps remain extremely prevalent. In April 2018, the Proceedings on Privacy Enhancing Technologies published the results of a study ("*PET Study*") by an international group of computer scientists.[16]

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[12] Kristen Cohen & Christina Yeung, *Kids' Apps Disclosures Revisited* (Sept. 3, 2015), https://www.ftc.gov/news-events/blogs/business-blog/2015/09/kids-apps-disclosures-revisited.

[13] *Yelp, TinyCo Settle FTC Charges Their Apps Improperly Collected Children's Personal Information* (Sept. 17, 2014). The consent decree required the company to comply with COPPA, to submit compliance reports, and pay a $300,000 civil penalty.

[14] *Two App Developers Settle FTC Charges They Violated Children's Online Privacy Protection Act* (Dec. 2015), https://www.ftc.gov/news-events/press-releases/2015/12/two-app-developers-settle-ftc-charges-they-violated-childrens. This was the first case to involve persistent identifiers, which the FTC included in the definition of personal information in revising the COPPA Rule in 2013.

[15] *Mobile Advertising Network InMobi Settles FTC Charges It Tracked Hundreds of Millions of Consumers' Locations Without Permission* (Jun. 2016), https://www.ftc.gov/news-events/press-releases/2016/06/mobile-advertising-network-inmobi-settles-ftc-charges-it-tracked.

[16] Irwin Reyes, Primal Wijesekera, Joel Reardon, Amit Elazari Bar On, Abbas Razaghpanah, Narseo Vallina-Rodriguez, and Serge Egelman, *"Won't Somebody Think of the Children?" Examining COPPA Compliance at Scale,* Proceedings on Privacy Enhancing Technologies: 2018 (3) 63-83 ("*PET Study*").

They performed automated analysis on 5,585 Android apps in the Play Store's Family section.[17]

Of these 5,855 apps, they found that 28% accessed sensitive data protected by Android permissions, and 73% transmitted sensitive data over the internet.[18] They explained that "[w]hile accessing a sensitive resource or sharing it over the Internet does not necessarily mean that an app is in violation of COPPA, none of these apps attained verifiable parental consent: if the Monkey was able to trigger the functionality, then a child would as well."[19] They attributed these results to apps' use of third-party Software Development Kits (SDKs). They observed that "while many of these SDKs offer configuration options to respect COPPA by disabling tracking and behavioral advertising, our data suggest that a majority of apps either do not make use of these options or incorrectly propagate them across mediation SDKs."[20] Moreover, 19% of the children's apps collected personally identifiable information via SDKs with terms of service prohibiting them from being used in children's apps.[21]

A May 2018 study by researchers at the University of Oxford examined third-party trackers on 959,000 apps from the US and UK Google Play Stores. It found that most apps contained third-party tracking, but the extent of tracking varied. Apps targeted to children (along with news apps) averaged the highest number of third-party trackers. [22]

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[17] *PET Study*, at 67 (describing methodology).
[18] *Id.* at 69.
[19] *Id.* The "Monkey" is an Android tool that simulates random user inputs. *Id.*, at 67 (explaining how the Monkey generates user inputs). *See also*, Developers, Android Studio, *UI/Application Exerciser Monkey,* https://perma.cc/S3Z8-8ENF (archived December 14, 2018) (explaining the tool).
[20] *Id.* at 63. According to Google, mediation "increases your mobile app revenue by calling a series of third-party ad networks to fill an ad request, ordered by expected yield." Google Ad Manager Help, *Introduction to Mediation,* http://www.adotas.com/2014/07/what-is-mobile-ad-mediation-and-how-does-it-work/; *see also*, Google Ad Manager, *How Mediation Works*, https://support.google.com/admanager/answer/7391294.
[21] *Id.*
[22] Reuben Binns *et al., Third Party Tracking in the Mobile Ecosystem*, Association for Computing Machinery 6 (May 2018), https://arxiv.org/pdf/1804.03603.pdf.

In September 2018, the state of New Mexico filed a complaint against app developer

Tiny Lab Productions and several advertising companies, including Google's AdMob, Twitter's

MoPub, In Mobi, and AppLovin.[23] The complaint alleged that the defendants "exfiltrate the

personal information of children who play their apps—the very audience for whom the apps are

designed—and use that data for commercial gain," without obtaining verifiable parental consent

as required by COPPA.[24] It also alleged that Google

> fraudulently facilitates and furthers Tiny Lab's marketing of its apps
> as being safe and appropriate for children in Google's app
> marketplace (the Google Play Store). Meanwhile, Google knows
> that Tiny Lab's apps track children unlawfully. Google's bad acts
> are compounded because it represents to parents and guardians that
> Tiny Lab's apps are *compliant* with COPPA—despite express
> knowledge that this is not true—and safe for children. Indeed,
> Google itself is one of the SDK Defendants whose embedded coding
> tracks and profiles children.[25]

The complaint described how researchers that had conducted the *PET Study* published in

April 2018 notified Google that apps on its Play Store were violating COPPA. The researchers

noted that Google's DFF terms were contributing to the problem, and that the company "might

be incentivizing developers to abuse its Designed for Families (DFF) program and deceive

consumers by falsely claiming the apps are not primarily directed to children (mixed-audience),

when they clearly are."[26] The complaint alleged that "Google affirmatively elected to do nothing

to ameliorate the misconduct. Ignoring these facts is particularly egregious in light of the fact

that they set and enforce the DFF requirements, and one of the core requirements is COPPA

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[23] State of New Mexico v. Tiny Lab Productions et al (No.1:2018cv00854),
https://int.nyt.com/data/documenthelper/295-new-mexico-kid-apps-
complaint/206d4ea39896e264fe3a/optimized/full.pdf#page=1?action=click&module=Intentional&pgtype
=Article ("New Mexico Complaint").
[24] *Id.* at ¶7.
[25] *Id.*
[26] *Id.* at ¶¶ 110-121. The DFF program is discussed in the next section.

compliance."[27] In its reporting on the New Mexico suit, the *New York Times* conducted its own investigation of ten apps on the Google and Apple app platforms. That investigation found that "six of the Android apps shared data such as precise location, IP addresses and tracking IDs in ways that could be problematic."[28]

B. **The Google Play Store and the Designed for Families Program**

The Play Store is Google's one-stop shop for Android apps, games, music, movies and e-books.[29] As of September 2018, the Play Store had an estimated 2.6 million apps available for download. A majority of these apps can be downloaded for free.[30] Google does not charge app developers for listing their apps in the Play Store. Instead, it takes a share of the revenues earned by the apps, whether those revenues come from in-app purchases, advertising within the app, or the purchase cost.[31]

Visitors to the Play Store can search by keywords or browse in different categories. One category is "Family." The Family category is further divided into subcategories by age range and type of app, as shown in the screenshot below.

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[27] *Id.* at ¶121.
[28] Jennifer Valentino-Devries, Natasha Singer, Michael Keller & Aaron Krolik, *How Game Apps That Captivate Kids Have Been Collecting Their Data*, N.Y.T., (Sept. 12, 2018), https://www.nytimes.com/interactive/2018/09/12/technology/kids-apps-data-privacy-google-twitter.html. A copy is attached as Ex. 1.
[29] Android is the mobile operating system developed by Google for use in smartphones and tablets.
[30] *Number of available applications in the Google Play Store from Dec. 2009 to Sept. 2018*, STATISTA, https://www.statista.com/statistics/266210/number-of-available-applications-in-the-google-play-store/.
[31] Google Play Console, *Transaction Fees*, https://perma.cc/HFZ6-PGL2 (archived Dec. 13, 2018). Google made $14.3 million from "apps, in-app purchases, digital content in the Google play Store' Google Cloud offerings; and hardware" in 2017, an increase of $4.2 million from 2016, which the company attributes to Google Cloud, hardware, and Google Play revenues, particularly in-app purchases. Google Play revenues also contributed to an increase in this revenue category from 2015-2016. Alphabet, Inc., Q4 2017, 10K, https://perma.cc/6UML-J4GR (archived Dec. 13, 2018).
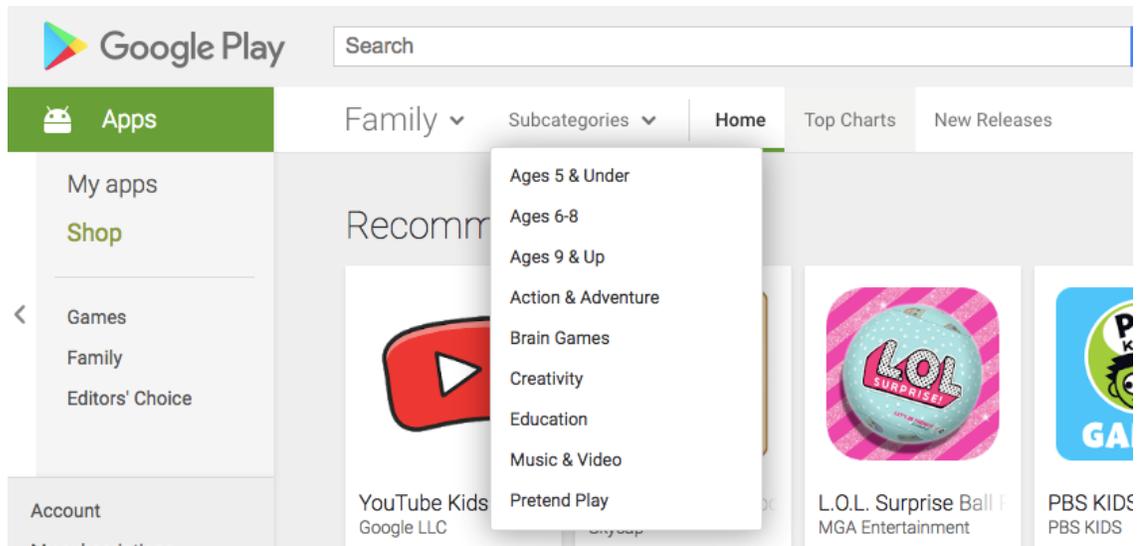
Google only lists in the Family category apps that have been accepted into Google's Designed for Families (DFF) program, which it launched in May 2015.[32] Apps accepted into the program all display the green, family-friendly star in their descriptions. Google requires all *primarily child-directed* apps to participate in the DFF program. The apps show the intended age group, e.g. ages 5 & under, next to the family-friendly star. Google invites "[a]pps that are not primarily child-directed but are designed for kids and families [to] opt in for inclusion in the Designed for Families program." [33] "Mixed audiences" apps *may* choose to join the DFF program, apps that are directed to children must join the program.

Google has adopted specific criteria for participation in the DFF program. Apps must "be relevant for children under the age of 13," and the content must be appropriate for children.[34] Apps developers must confirm that:

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[32] Kevin Tofel, *Google Play Store Family section launches online*, ZDnet (Jun. 9, 2015), https://www.zdnet.com/article/google-play-store-family-section-arrives-online/.

[33] *DFF Guide for Developers,* https://perma.cc/4DRC-6LBU (archived Dec. 13, 2018). Relevant excerpts are shown in Ex. 2, at 2.003.

[34] *DFF Program Requirements*, https://perma.cc/ML9K-TETX (archived Dec. 13, 2018). A copy is attached as Ex. 3.

2.1 . . . [they] comply with applicable legal obligations relating to advertising to children.

2.2 Ads displayed to child audiences do not involve interest-based advertising or remarketing.

2.3 Ads displayed to child audiences present content that is appropriate for children.

2.4 Ads displayed to child audiences follow the Designed for Families ad format requirements.[35]

In addition to meeting these eligibility requirements, developers must comply with the Google Play Developer Program Policies, the Developer Distribution Agreement, and the DFF Addendum.[36]

The Addendum states that by submitting apps to the DFF program, "your app will be subject to a special review process, and the decision to include each app is in Google's sole discretion."[37] The Addendum also requires that participants represent that they "are compliant with COPPA and other relevant statutes, including any APIs that your app uses to provide the service," "maintain a user facing privacy policy," and provide "clear disclosures on what data your app collects from users and how that data is used."[38] Google reserves the right to immediately remove apps from DFF for failure to comply with all program requirements.[39]

Google invites developers to opt-in to the DFF program, explaining that apps meeting "the program requirements will also be featured through Google Play's family-friendly browse and search experiences so that parents can find suitable, trusted, high-quality apps and games

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[35] *Id.* at 2.
[36] *Id.* at 1.
[37] *DFF Addendum* (Apr. 14, 2015), https://perma.cc/NLY2-NG6Z (archived Dec. 13, 2018). Attached as Ex. 4.
[38] *Id.*
[39] *Id.*

more easily." [40] It touts the benefits of being in the DFF program: "Google Play's family-friendly browse and search experiences helps parents find suitable, trusted, high-quality apps and games more easily. You will benefit from the family discovery experience on Google Play and expanded visibility of your family content, as well as a family star badge on your App to mark participation."[41]

Google also receives considerable revenue from the apps that use the services of AdMob, Google's "mobile app advertising platform designed specifically for app developers."[42] AdMob "helps app developers monetize their mobile apps by showing ads in their mobile apps."[43] Developers may connect their AdMob and AdWords accounts to advertise across other Google services, including Google Search, Google Play, YouTube, and the Google Display Network.[44]

AdMob also helps maximize monetization by offering "comprehensive mediation platforms which allows developers to manage and mediate ad requests out to more than 40 third-party networks."[45] Many of the third-party advertisers that receive personal information from children's apps,[46] like TapJoy and MoPub, partner with AdMob in mediation.[47]

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[40] *The Family Playbook (for developers): A Companion to The Secrets to App Success on Google Play*, ("*Family Playbook*") at 16, https://perma.cc/LAC6-NZPV (archived Dec. 13, 2018).

[41] *Id. See also DFF Program Requirements* (DFF "expands the visibility of your family content on Google Play, helping parents easily find your family-friendly apps and games throughout the store. Other features create a trusted environment that empowers parents to make informed decisions and engage with your content.").

[42] *App Developers: Monetize Your Mobile Apps with AdMob*, https://perma.cc/9PRH-2KJE (archived Dec. 13, 2018).

[43] *Id.*

[44] *Id.*

[45] *Id; see* Kathie Green, *What is Mobile Ad Mediation and How Does It Work*, adotas (July 21, 2014), http://www.adotas.com/2014/07/what-is-mobile-ad-mediation-and-how-does-it-work/ (explaining mediation).

[46] See *infra* at II(C)(2).

[47] These include AdColony, AppLovin, Chartboost, InMobi, MoPub, Tapjoy, Unity and Vungle. Mediation, https://perma.cc/V9AD-YVK7 (archived Dec. 13, 2018).

Google also has additional partnerships with third-party advertisers like Unity, demonstrating the company's financial attachment to the third party advertisers that receive data from Play Store apps. A recent article about that partnership explained that "Google benefits because more than 50 percent of all new mobile games are made on Unity, and so it will have an easier time reaching a wider variety of game developers (and their high-value consumers) with its ads on both Android and iOS, as Google's ads reach both platforms."[48]

Since Google receives one third of the revenue from every app purchased and every purchase made within the app,[49] it is in the company's interest to ensure that the apps are as lucrative as possible. AdMob released a white paper in 2015, *A Winning Combination—How using in-app purchases and ads together can maximize mobile game revenue,* on how apps can build effective monetization models.[50] Based on its analysis of over 10,000 top Android apps, AdMob found that adding ads to games with in-app purchases (IAPs) can increase revenues by 117%.[51] The "hybrid" refers to this mix of revenue sources, advertising and IAP, within an app. AdMob recommends that developers maximize revenues by segmenting their users according to the behavior types that the developer can most effectively monetize, particularly by using the hybrid model on particular types of users.[52] For example, "learners" rarely engage with the app and are unlikely to spend on IAP, so the paper suggests coaxing them with tutorials and "free gifts" to induce familiarity and loyalty.[53] "Burners" engage but don't spend on IAP, turners have

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[48] Dean Takahashi, *Google and Unity partner to boost mobile game advertising,* VentureBeat (Aug. 2, 2018), https://venturebeat.com/2018/08/02/google-and-unity-partner-to-boost-mobile-game-advertising/.
[49] Google Play Console, Transaction Fees, https://perma.cc/HFZ6-PGL2 (archived Dec. 13, 2018).
[50] AdMob by Google, *A Winning Combination: How using in-app purchases and ads together can maximize mobile game revenue*, https://perma.cc/LE82-SZQH (archived Dec. 13, 2018).
[51] *Id.* at 4.
[52] *Id.* at 13 (distinguishing "earners, burners, learners and turners" and suggesting different monetization strategies for each).
[53] *Id.*

"high spending potential" but low engagement, and "earners" are the most lucrative, as they engage highly while still being willing to pay for IAP. Hybrid monetization in children's apps designed to stimulate engagement and purchases from "burners" has produced the manipulative tactics that the Michigan Study and the Child Advocates' October Letter highlighted as problematic for children. The AdMob paper actively recommends that developers manipulate certain users into making IAPs. Or as the paper puts it, "[f]or these users who burn time in your game but don't spend, you can monetize them with ads. In addition, IAPs can be strategically promoted when the user is stuck at a level."[54] The white paper highlights the success of several companies using the hybrid model, including two companies—Animoca Brands and TabTale— that have numerous apps in the Family section of the Play Store. [55]

II.   **Google falsely represents that apps included in the Family section are appropriate for children when many are not**

The FTC Policy Statement on Deception sets out a three-part test for violations of Section 5 of the FTC Act. First, it assesses whether there has been a representation, omission or practice that is likely to mislead the consumer. Second, where the representation is directed to a particular group, the FTC examines reasonableness from the perspective of that group. Third, the representation, omission, or practice must be material. [56]

Google is responsible for the truthfulness of its representations regarding the Play Store.[57] The FTC's guidance reminds app stores to evaluate their liability under Section 5, noting that "it

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[54] *Id.* at 13. A diagram of this approach is attached as Ex. 5.
[55] *Id.* at 8, 9, and 15; *Id.* at 14 ("We tried IAPs only and compared it with IAPs with ads, and we found that [hybrid monetization] is the optimal way for most of our apps.") (quoting TabTale).
[56] *FTC Policy Statement on Deception*, *appended to Cliffdale Associates, Inc.*, 103 F.T.C. 110, 174. (1984).
[57] The COPPA Rule Statement of Basis and Purpose explains that an app store is not an "operator" under COPPA because the term "operator" was not intended to encompass platforms such as "Google Play or

could be a deceptive practice to misrepresent the level of oversight you provide for a child-directed app."[58] Google is engaging in deceptive practices in representing that the apps in the Family section of the Play Store comply with COPPA when many do not, that they meet Google's criteria when they do not, and that they are appropriate for children when they are not.

A. **Google represents that apps in the Family section of the Play Store are appropriate for children**

Parents looking for appropriate apps for children are likely to search the Family section of the Play Store. Clicking on an app icon provides detailed information about the app, as shown in the screenshots below.
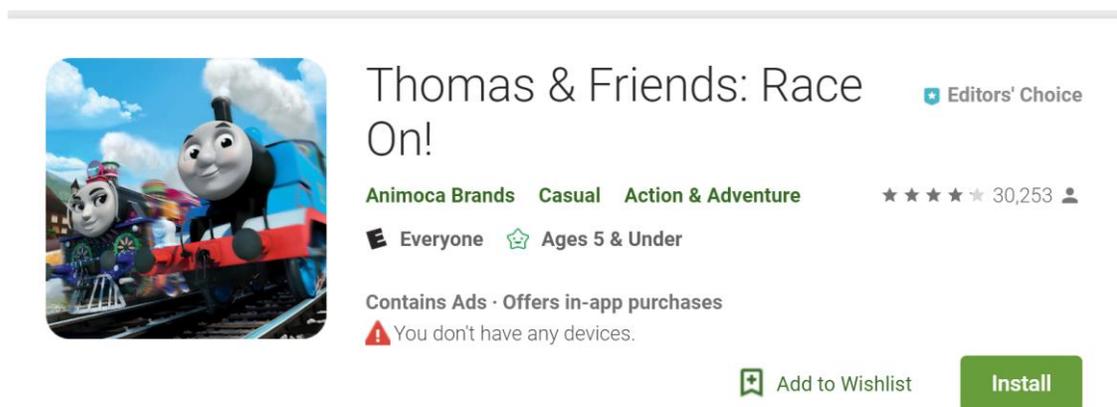
This app displays the green, family-friendly star and indicates that the app is appropriate for children aged 5 and younger. It also identifies the name of the developer (Animoca Brands), the type of app (Action & Adventure) and whether it contains in-app purchases and/or advertising (it does). Below this basic information is a colorful screenshot and description of the app, followed

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the App Store, when such stores merely offer the public access to someone else's child-directed content." 78 Fed. Reg. 3972, 3977 (2013).

[58] *COPPA FAQs* at H-16, https://www.ftc.gov/tips-advice/business-center/guidance/complying-coppa-frequently-asked-questions.

by customer ratings and reviews. At the end, it provides additional information, including the number of downloads (more than five million) and a link to the developer's privacy policy.

Parents may also click on the Play Store's *Parent Guide* listed in the menu on the left. The *Parent Guide* provides this tip:[59]

> **Tip:** You can also spot family-friendly content across Google Play by looking for the Family friendly star ⬠. The star tells you what age the content was designed for.

If parents click on "Learn more about finding family-friendly content," they are told they will only see family-friendly content if they start their search in the Family section. They are also reminded to look for the family-friendly star:

> The star badge tells you what age group the developer designed for their app or game for. On the badge, you may see:
>
> - Family-friendly: Mixed audience of kids and adults
>
> - Ages: Specific age ranges between 0 and 12 years old
>
> We recommend parental guidance on any apps not designed solely for children.
>
> Note: Developers might make changes to their app or game, so check for the star badge and review the information above before installing an app update.[60]

Google's Safety Center similarly advises parents on finding content and experiences for children. It tells them to "look for the family star badge on apps and games. The star badge signifies that the content has been more carefully reviewed and it was developed with kids in mind. It also includes a suggested age range for the content." [61]

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[59] Google Play Help, *Parent Guide to Google Play*, https://perma.cc/9FPT-663R (archived Dec. 14, 2018). A copy is attached as Ex. 6.
[60] Google Play Help, *Find family-friendly content in Google Play: What the star badge means*, https://support.google.com/googleplay/answer/6209531.
[61] *Building family-friendly experiences*, https://safety.google/families/family-friendly-experiences/.

These statements clearly communicate to the intended audience—parents—that the apps they find in the Family section, as well as any other apps they find with the family-friendly star, are not only appropriate for children, but are appropriate for kids to play without parental supervision.

B. **Google's representations about apps in the Family section are material**

A material representation is one that is "likely to affect a consumer's conduct or decision with respect to the product or service." [62] Express claims are presumptively material, as the FTC assumes that "the willingness of a business to promote its products reflects a belief that consumers are interested in the advertising."[63] Google's claims are express. The appropriateness of an app for children is clearly a material factor in deciding whether to download the app.

Thus, if the FTC agrees with our assessment that many apps in the Family section are not appropriate for children, Google's representations would be deceptive or misleading, in violation of Section 5.

C. **Many apps in the Family section are not appropriate for children because they violate COPPA**

The COPPA Rule generally prohibits an operator of a child-directed online service from collecting, using or sharing personal information from a child without providing notice to parents and obtaining advance verifiable parental consent.[64] Under Rule 312.4, an "operator must make reasonable efforts, taking into account available technology, to ensure that a parent of a child receives direct notice of the operator's practices with regard to the collection, use, or disclosure

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[62] *FTC Policy Statement on Deception* (1984),
https://www.ftc.gov/system/files/documents/public_statements/410531/831014deceptionstmt.pd.
[63] *Id.* at 5.
[64] 16 C.F.R. § 312.3

of personal information from children."[65] COPPA also requires that online service operators

establish and maintain reasonable procedures to protect the confidentiality and integrity of

personal information collected from children.[66]

      1.   Some apps in the Family section access a child's location without giving notice to parents and obtaining advance verifiable parental consent

The COPPA Rule defines "personal information" to include "geolocation information

sufficient to identify street name and name of a city or town."[67] In 2013, the FTC updated the

COPPA Rule to explicitly add geolocation as a stand-alone form of personal information. The

COPPA FAQs explain that the COPPA Rule covers the mere collection of geolocation

information, not just its use or disclosure.[68] Thus, a child-directed app that automatically collects

geolocation information must notify parents and get advance, verifiable parental consent.

The FTC has taken action against developers whose apps collect location data from

children. In April 2018, the FTC sent letters to Gator Group and Tinitell warning that their apps,

connected to "smartwatches," were not in compliance with COPPA because they collected

children's geolocation without notice and consent. [69] The FTC also sent copies of these letters to

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[65] 16 C.F.R. § 312.4(b). In addition to giving direct notice, the operator must post a prominent and clearly labeled link to its children's privacy policy, and the privacy policy must contain specific information. *Id.* § 312.4 (d). Notice must be "clearly and understandably written, complete, and must contain no unrelated, confusing, or contradictory materials." *Id.* § 312.4(a). While all of the apps we examined had privacy policies, most would not likely meet these standards because they were not clearly written, were confusing and contradictory, and did not include all of the required information.
[66] 16 C.F.R § 312.8.
[67] 16 C.F.R. § 312.2.
[68] *Complying with COPPA: Frequently Asked Questions*, FTC, (Mar. 20, 2015), https://www.ftc.gov/tips-advice/business-center/guidance/complying-coppa-frequently-asked-questions#Geolocation%20Data ("[Question F-1] I automatically collect geolocation information from users of my children's app, but I do not use this information for anything. Am I responsible for notifying parents and getting their consent to such collection? [Answer] Yes. COPPA covers the collection of geolocation information, not just its use or disclosure.").
[69] *FTC letter to Gator Group Cp., Ltd., on potential violation of COPPA*, (Apr. 26, 2018), https://www.ftc.gov/system/files/attachments/press-releases/ftc-warns-gator-group-tinitell-online-

the Google Play Store and the Apple App Store because they "make the apps available to consumers in their stores."[70] Google is, therefore, well aware of the FTC's concerns about apps that collect location data from children.

Despite the warning, a recent investigation by the *New York Times* found that highly granular location tracking is prevalent in apps—including children's apps.[71] Companies aggregating and selling location data generally claim that the risks to consumers are minimal because the data is anonymized. However, real time location data make it easy to determine the identity of a user by, for example, tracking someone who travels from their home to a middle school at 7:30 AM, and returns home at 3:30 PM.[72]

Our investigation revealed similarly concerning findings. On December 5th 2018, we asked Serge Egelman, a co-author of the *PET Study,* to query the AppCensus database to identify Play Store apps transmitting location data to third parties. He found 84 unique DFF apps that transmit location information, either collected through the GPS hardware ("geolocation") or by triangulation via nearby WiFi network names ("SSIDs") or router MAC addresses ("BSSIDs"). As shown in Exhibit 8, we found many examples of these apps that were both primarily directed

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services-might-violate-coppa/coppa_gator_group_co_ltd_letter_4-26-18.pdf; *FTC letter to Tinitell, Inc. on potential violation of COPPA*, (Apr. 26, 2018), https://www.ftc.gov/system/files/attachments/press-releases/ftc-warns-gator-group-tinitell-online-services-might-violate-coppa/coppa_tinitell_inc_letter_4-26-18.pdf. *See also* Whitney Fore, *FTC Focuses on Kids' Geo-Location Devices in Latest COPPA Warnings,* FTC Beat, Ifrahlaw,(May 8, 2018), https://www.ifrahlaw.com/ftc-beat/ftc-focuses-kids-geo-location-devices-latest-coppa-warnings/. The apps are no longer being offered.

[70] *FTC Warns Gator Group, Tinitell that Online Services Might Violate COPPA*, (Apr. 27, 2018), https://www.ftc.gov/news-events/press-releases/2018/04/ftc-warns-gator-group-tinitell-online-services-might-violate.

[71] Jennifer Valentino-Devries, Natasha Singer, Michael Keller & Aaron Krolik, *Your Apps Know Where You Were Last Night, and They're Not Keeping It A Secret*, NY Times (Dec. 10, 2018), https://www.nytimes.com/interactive/2018/12/10/business/location-data-privacy-apps.html. The Times released an accompanying explanation of the researchers' methodology. *How The Times Analyzed Location Tracking Companies*, N.Y.T. (Dec.10, 2018), https://www.nytimes.com/2018/12/10/technology/location-tracking-apps-privacy.html.

[72] *Id.*

to children—*i.e.*, part of the DFF program—and which were still listed in Google's Play Store.[73]

Thus, Google's representation that apps in the Family section comply with COPPA is false, because some are accessing location data and disclosing it to third parties without giving direct notice to parents or obtaining parental consent.

2. Some children's apps appear to send persistent identifiers to third parties for behavioral advertising

Google tells applicants for the DFF program that they must comply with COPPA and "must disable interest-based advertising and remarketing, and should comply with child relevant regulations and industry standards for all countries where the app is distributed."[74] COPPA prohibits the use of personal information collected from child-directed online services for behavioral advertising or profiling without notice and parental consent. The COPPA Rule defines the term "personal information" to include "[a] persistent identifier that can be used to recognize a user over time and across different websites or online services. Such persistent identifiers include, but are not limited to, a customer number held in a cookie, an Internet Protocol (IP) address, a processor or device serial number, or a unique device identifier."[75] Persistent identifiers are pieces of information unique to a user or their smartphone that can be used to track behaviors over time. Examples of persistent identifiers include: advertising ID,

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[73] AppCensus also shows that many children's apps accessed location or requested to access location. That AppCensus did not find a particular permission-protect data type being accessed or transmitted does not mean that the app definitively will not access it when tested under different conditions, because the researchers' methodology relies on random user inputs. *See* n.19 and accompanying text.

[74] *DFF Ads & Monetization*, *Ad targeting and data collection*, https://perma.cc/U5DG-QGTS (archived Dec. 13, 2018). Attached as Ex. 7, at 7.003.

[75] 16 C.F.R. § 312.2.

Android ID, device fingerprint, International Mobile Equipment Identify (IMEI), Wi-Fi MAC

Address, Google Services ID, serial number, and SIM serial number.[76]

The COPPA Rule provides a narrow exception to the notice and consent requirement

when persistent identifiers are necessary to provide support for internal operations.[77] But it

explicitly prohibits information collected to support internal operations from being used or

disclosed to contact a specific individual, including through behavioral advertising, to amass a

profile on a specific individual, or for any other purpose.[78]

Nearly three-quarters of the apps in the Family section transmit device identifiers to third

parties.[79] There is no way for us to know for sure what the device identifiers are used for. Since

many of the apps send device identifiers to third parties that specialize in monetizing apps and/or

engaging in interest-based (behavioral) advertising, it seems unlikely that this information is

being used solely to support internal operations.

Unity, for example, receives persistent identifiers from many children's apps including

Animoca Brand's *Thomas and Friends*, *Race On!*, Hasbro's *LovetoLearn Elmo,* Disney's *Miles*

from TomorrowLand, and Budge's *Crayola Nail Party: Nail Salon.* Unity's privacy policy

discloses that it collects and shares a wide variety of personal information and delivers targeted

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[76] *PET Study,* at 68-9 (listing and explaining the different types of information AppCensus analyzes).
[77] Support for internal operations means activities necessary to:
(i) Maintain or analyze the functioning of the Web site or online service;
(ii) Perform network communications;
(iii) Authenticate users of, or personalize the content on, the Web site or online service;
(iv) Serve contextual advertising on the Web site or online service or cap the frequency of advertising;
(v) Protect the security or integrity of the user, Web site, or online service;
(vi) Ensure legal or regulatory compliance; or
(vii) Fulfill a request of a child as permitted by § 312.5(c)(3). 16 C.F.R. § 312.2.
[78] *Id.*
[79] *Pet Study* at 8. Select examples from AppCensus of what children's apps are sending to third parties are shown in Ex 8.

advertising.[80] The privacy policy also states that "Our Services are intended for general audiences. Unity does not knowingly collect any personal information from children."[81] Because Unity says it does not knowingly collect persistent identifiers from children, it is likely that it does not treat the data it collects from these child-directed apps any differently than information collected from adults.

Flurry is another third party that receives devices identifiers from many children's apps including TuToTOON's *Sweet Baby Girl –Daycare 2*, Bengigi's *Noogra Nuts – The Squirrel,* TabTale's *Baby Care & Dress Up Kids Game*, *Baby Dream House*, and *ABC Song – Kids Learning Game,* all for ages 8 & under. Flurry is owned by Oath, which also owns AOL and Yahoo, and is a subsidiary of Verizon. Flurry's privacy policy discloses that it collects personal information and uses this information to "match and serve targeted advertising (across devices and both on and off of our Service) and provide targeted advertising based on your device activity, inferred interests and location." The privacy policy also states that "Our Services are for a general audience. We do not knowingly collect, use, or share information that could reasonably be used to identify children under age 13 without prior parental consent or consistent with applicable law."[82] This language strongly suggests that when persistent identifiers from a child-directed app are sent to Flurry/Oath, that information is used for targeting advertising. Moreover,

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[80] *Unity Privacy Policy*, https://perma.cc/W5ST-PMLQ (archived Dec. 13, 2018).
[81] *Id*. at 6.
[82] *Protecting Children's Privacy*, https://policies.oath.com/us/en/oath/privacy/index.html. https://developer.yahoo.com/analytics/features.html.

Flurry Analytics even offers a service which "utilizes Flurry's machine learning and panel of 40 million devices to predict with accuracy your user's age and gender."[83]

The inference that Flurry knowingly uses children's personal information for behavioral advertising is even more compelling because Oath, which owns both Flurry and AOL, recently
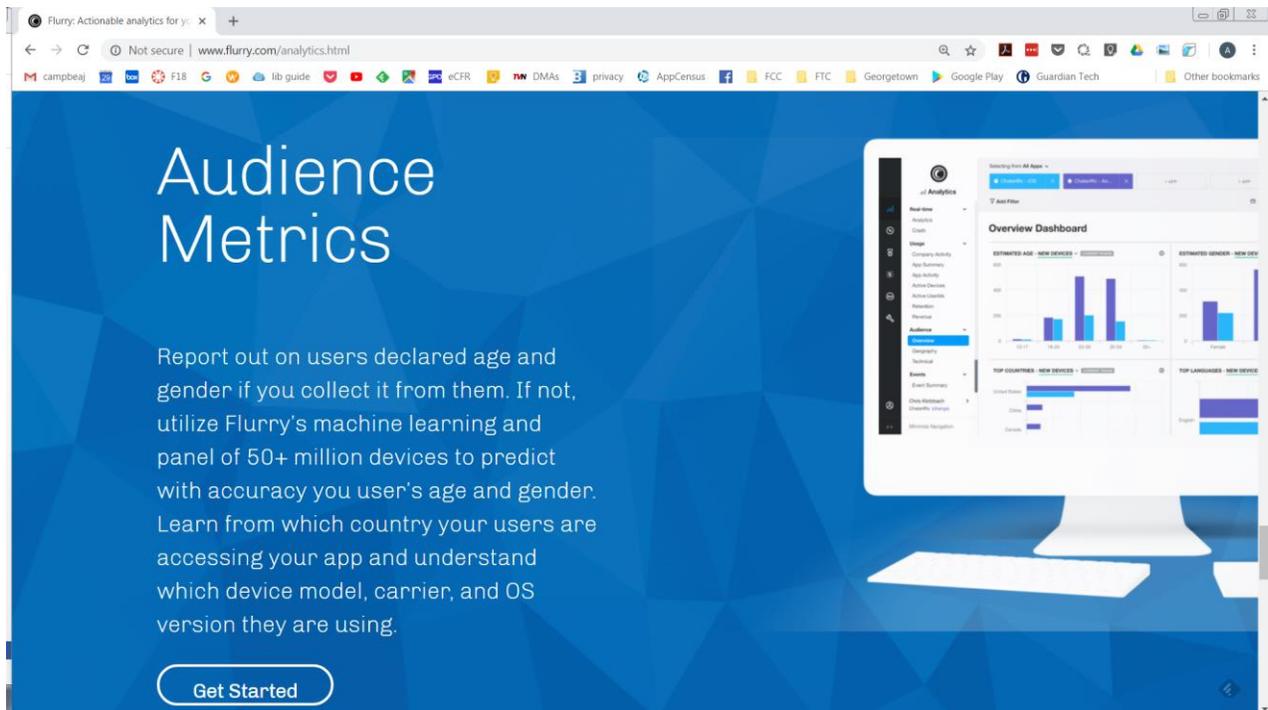
agreed to pay nearly $5 million to settle charges brought by the New York Attorney General for violating COPPA. The settlement detailed how AOL had regularly collected personal information from websites directed to children and shared that information with potential advertisers engaged in real-time bidding.[84] The New York Attorney General alleged that even though AOL's policies prohibited the use of its display ad exchange to auction ad space on

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[83] Flurry, *Actionable Analytics For Your Business: Audience Metrics* https://perma.cc/JP2X-7N2P (archived Dec. 13, 2018).

[84] Sapna Maheshwari, *Oath Agrees to $5 Million Settlement over Children's Privacy Online,* New York Times, Dec. 3, 2018, https://www.nytimes.com/2018/12/03/business/media/oath-children-online-privacy.html; Elizabeth Foster, *Oath to pay US$4.95 M for COPPA violation,* KIDSCREEN, Dec. 4, 2018, http://kidscreen.com/2018/12/04/oath-to-pay-us4-95m-for-coppa-violation/.

COPPA-covered websites to third-parties, "AOL nevertheless used its display ad exchange to conduct billions of auctions for ad space on websites that it *knew* to be directed to children under the age of 13 and subject to COPPA."[85] Although the New York Attorney General's case involved children's websites, the same type of information collection and ad targeting takes place on apps, and even across multiple platforms.

In addition to Unity and Flurry, we found that many other third parties received persistent identifiers from apps participating in the DFF program, as discussed in Exhibit 9.[86] All of this suggests that Google is not doing much, if anything, to enforce its DFF criteria. If apps are sending persistent identifiers to third parties for behavioral advertising, or for any purpose other than supporting internal operations, Google's representation that the apps in the Family section are COPPA-compliant and do not involve interest-based advertising is false and in violation of Section 5.

3. Several child-directed apps in the DFF program do not take reasonable measures to maintain the security of children's personal information

Yet another way in which many apps in the DFF program violate COPPA (and Google's criteria for the DFF program) is by failing to adequately maintain the security of the information they collect. COPPA Rule 312.8 requires that a child-directed online service provider that collects personal information must "maintain the confidentiality, security, and integrity of

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[85] *A.G. Underwood Announces Record COPPA Settlement With Oath – Formerly AOL – For Violating Children's Privacy*, (Dec. 4, 2018), at 4 (emphasis in original). https://ag.ny.gov/press-release/ag-underwood-announces-record-coppa-settlement-oath-formerly-aol-violating-childrens.
[86] Some additional examples of these third parties are provided in Ex.9.

information they collect from children, including by taking reasonable steps to release such information only to parties capable of maintaining its confidentiality and security."[87]

The FTC has taken enforcement actions against companies that failed to provide reasonable and appropriate data security to protect children's personal information. For example, it brought an action against VTech, which collected personal information from children through its electronic toys and their associated apps. The FTC alleged that VTech violated COPPA because it failed to "develop, implement, or maintain a comprehensive information security program." [88]

Like VTech, Hasbro Inc. has several apps in the Play Store, including *Love2Learn Elmo* (ages 5 & under) and *Furby* (ages 9-12), which are intended to be used in conjunction with toys.[89] According to AppCensus, these apps send persistent identifiers to third parties such as Unity and Localytics in unencrypted form.[90] Disney Publishing Worldwide's apps *Olaf's Adventures*, and *Miles From Tomorrowland*, both for ages 8 & under, also send children's personal information unencrypted to third parties including Unity. And *The Fixies Quest: Kids*

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[87] *COPPA FAQs*, *A-1*, https://www.ftc.gov/tips-advice/business-center/guidance/complying-coppa-frequently-asked-questions.

[88] Complaint at 25, *United States of America v. VTech Electronics Limited and VTech Electronics North America, LLC*, No 1:18-cv-114, 2018 WL 317978 (N.D.Ill. 2018),
https://www.ftc.gov/system/files/documents/cases/vtech_file_stamped_complaint_w_exs_1-8-18.pdf. The FTC also alleged that VTech violated the FTC Act by falsely stating in its privacy policy that most personal information submitted by users would be encrypted, when in fact, VTech did not encrypt any of this information. *Id.* at ¶29-30.

[89] Ex. 10.

[90] Ex. 10. Localytic's privacy policy says that its customers (app developers) implement Localytic's service by installing and configuring software to collect and analyze information for targeted, personalized messaging. It claims that the service not intended for children and does not knowingly collect personal information from children. further states that the customer is responsible for determining if any of the data collected is considered personal data and to provide the appropriate transparency and privacy controls for the end user. https://www.localytics.com/privacy-policy/.

Riddles, by DEVGAME KIDS (ages 6-8) transmitted a staggering 40 unencrypted device identifiers to third parties including Applovin and MoPub.[91]

By any measure, sending personal information unencrypted is not a reasonable way to safeguard the privacy of personal information. Thus, Google's representation that apps in the Family section of the Play Store are COPPA compliant when they do not safeguard the privacy of personal information is false and misleading in violation of Section 5.

D. **Some apps in the Family section show ads that violate parents' expectations and Google's policies**

Parents reasonably expect that apps listed in the Family section of the Play store would not show advertisements for products that are inappropriate for, or harmful to, children. Similarly, they do not expect apps to use unfair and deceptive techniques to pressure children to make in-app purchases or watch advertisements. Google's criteria for inclusion in the DFF program prohibits apps from showing advertisements for products or services not appropriate for children. Google also requires that ads "must not have deceptive content or be designed in a way that will result in inadvertent clicks from child users."[92] Yet, we found many apps in the DFF program that advertised products not appropriate for children or otherwise violate Google's ad policies.

1. Some apps in the DFF program advertise products that are not appropriate for children

Google's ad policy requires that all advertising in apps participating in the DFF program must be "appropriate for children."[93] Examples of ads prohibited by the DFF criteria include ads

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[91] Ex. 10, at 10.005.
[92] *DFF Ads and Monetization,* Ex. 7 at 7.001
[93] *DFF Program Requirements,* Ex. 3 at 3.001.

for alcoholic beverages, gambling, and software and video games rated as unsuitable for children.[94] Nonetheless, while playing apps in the Family section, we saw many ads for prohibited products. For example, in *New Girl in High School* by TabTale (ages 6-12), the following promotion appeared for a beer game, *Hidden City, Mystery of Shadows*:
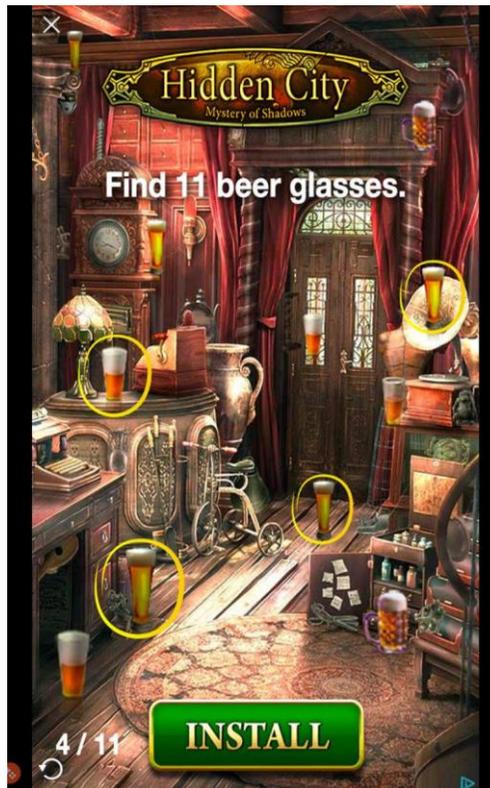
Dentist games for kids by AppQuiz, (8 & under) showed ads for the gambling games *Blackjack 21: Blackjackist* and *Double Win Slots-Free Vegas Casino.*

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[94] *DFF Ads & Monetization,* Ex. 7 at 7.004.

Reviewers of games in the Google Play Store Family section also noted inappropriate ads. For

example, a review of *Dinosaurs Puzzles for Toddlers-Dino Kids Puzzle* (ages 8 & under), wrote:

"The game may be intended for toddlers, but the advertisement are [not]. My son was playing

and a lingerie ad came up!"[95]

Thus, Google's representation that apps in the Family section will not have ads for

products that are inappropriate for children is untrue and deceptive.

2. Many apps in the Family section use advertising techniques that are not appropriate for use with children and violate Google's ad policies

Google falsely represents that the apps in the Family section comply with its advertising

policies when they do not. For example, Google's developer policy prohibits "disruptive ads,"

meaning that "[a]ds should not be shown in a way that results in inadvertent clicks. Forcing a

user to click an ad or submit personal information for advertising purposes before they can fully

use an app is prohibited."[96] Yet the Michigan Study found that many children's apps had "a

range of potentially disruptive (i.e., interrupting the child's gameplay) or persuasive

characteristics."[97] It found that 47% of apps examined had pop-up ads that automatically

appeared without clicking anywhere, when the user is idle, or when a level ended, and 15.6% had

prompts to watch videos.[98] The researchers found it inappropriate to use these practices with

young children because:

> embedding ad videos within gamified features, such as coin/token
> collection or ability to advance to the next level, children might be
> persuaded to consume more advertising, and interrupt their play,
> more than expected. In addition, due to weaknesses in attention
> control and impulse inhibition, young children may be more
> susceptible to ads with highly salient (e.g., larger, sparkling) or

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[95] Google Play Store, *Dinosaur Puzzles for Toddlers- Dino Kids Puzzle*, https://perma.cc/U2U7-J44A (archived Dec. 13, 2018).
[96] Developer Policy Center, *Disruptive Ads,* https://perma.cc/98KV-DAMG (archived Dec. 13, 2018).
[97] *Michigan Study* at 1.
[98] *Id.* at Table 1.

> novel features (e.g., hidden within a present) and may be less likely
> to wait for the X to appear to minimize a pop-up ad.[99]

The Michigan Study researchers identified many unethical marketing practices in the apps they reviewed:

> For example, in-app purchases were often not only advertised clearly to children (e.g., by a row of locked games or items) but were also encouraged by familiar characters in the app. Because children are known to develop trusting, emotional parasocial relationships with media characters and pay more attention to and learn better from familiar characters, we suggest that this is a misuse of parasocial relationships.[100]

Not only do such practices take unfair advantage of children, but they violate Google's ad policies regarding ad formats. Five major ad formats are used in mobile advertising—interstitial, banner ads, native ads, video ads and offer wall (also known as ad wall). Interstitial ads are full screen ads that cover the interface of their host application.[101] This format is most frequently used to display an ad between different levels in a mobile game app.

Google's Developer policy requires that if an app "displays interstitial ads or other ads that interfere with normal use, they must be easily dismissable [sic] without penalty."[102] Similarly, the DFF program requires that "[a]ds in apps participating in Designed for Families must not have deceptive content or be designed in a way that will result in inadvertent clicks from child users."[103] In particular, "Interstitial ads must not display immediately upon app launch," and "Ads must be clearly distinguishable from app content."[104]

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[99] *Id.* at 6-7.

[100] *Id.* at 7 (footnote omitted).

[101] Cameron Fitchett, *The Very Best Mobile Ad Formats*, (Aug. 27, 2015), https://gimbal.com/best-mobile-ad-formats/.

[102] Developer Policy Center, *Disruptive Ads,* https://perma.cc/98KV-DAMG (archived Dec. 13, 2018).

[103] *DFF Ads & Monetization,* Ex. 7 at 7.001.

[104] *Id.*

Nonetheless, we found many examples of interstitial ads that were not easily dismissed, ads that were likely to result in inadvertent clicks by children, and/or ads that displayed immediately upon app launch. As shown in the top screenshot below, *Dentist games for kids,* by AppQuiz (ages 8 & under) opened with an interstitial 15 second video ad for the mobile game *Warlords of Aternum.* The video took up the entire screen and could not be closed. When the video ended, the next screen urged the child to download *Warlords of Aternum* from the Play Store.[105] That screen could only be closed by clicking on the small "x" in the upper left corner. Even for adults, it is difficult to click the "x" without being taken to the Play Store. It is particularly unfair to employ such tactics on young children because their fine motor skills are just developing. [106]

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[105] *Warlords of Aternum* also should not be advertised on an app for ages 8 & under because it is rated Everyone 10+ on the Play Store.

[106] *Michigan Study* at 5. The ad for this game, which is rated for ages 10+, also violates Google's policy that the content of ads must be appropriate for children. *See* Part II. D. (1).
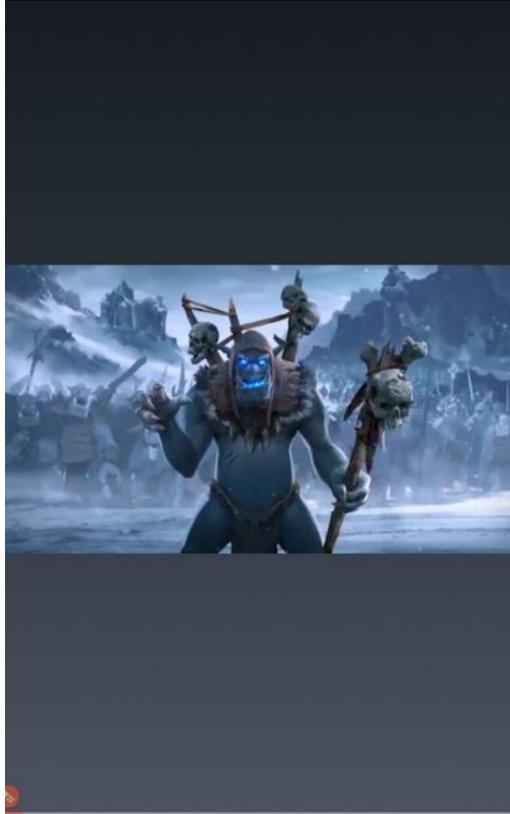
ColorMinis Kids- Color & Create Real 3D art by Figuromo Studio LLC (8 & under)

violates Google's prohibition against forcing users to click an ad before they can fully use the

app. The purpose of this app is for children to children "paint" figures. However, the app's

opening screen (below) requires the child to "Press Here To Get" crystals, which can be

redeemed to get figures. If the child pressed the button, the second image appears, telling the

child to "watch the Ad" for one crystal. Because each ad is 30 seconds long, and the user needs 8

gems, a child would have to watch 4 full minutes of ads to get a character to paint.

My First High School Crush, by TabTale (ages 6-12), displayed ads that were not clearly distinguishable from app content. The object of this game is to get the character's high school crush to "like her," by, among other things, applying make-up to the character. The player is offered several choices of eyeshadow (see below). However, if she clicks on one that has the tiny film icon, she will have to click on an ad before using it.

In addition to the example cited in the Advocates' Letter and this Request, we saw many
other apps that violate the DFF ad policies or used deceptive practices. Google's assertion that
apps in the DFF program comply with its ad policies is therefore deceptive.

3. Some apps unfairly pressure young children to make in-app purchases

The *Michigan Study* found that 45.9% of apps examined contained offers or reminders to
buy a full version of the app to avoid ads, to get access to more characters or levels, or to make
gameplay easier. With some apps, children cannot succeed without purchasing the full version.
Although Google's ad policy imposes no "specific restrictions" on in-app purchases, it "reserves
the right to reject apps for overly aggressive commercial tactics."[107]

We found many examples of overly aggressive commercial tactics in apps from the
Family section. The *World of Peppa Pig* by Entertainment One (ages 5 & under) is based on a

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[107] *DFF Ads & Monetization*, Ex. 7 at 7.005.

popular preschool program with an official YouTube channel with over 6.6 million subscribers.[108] As shown on the left below, the first thing a child sees when opening the app is a full screen advertising different subscription options. If the child clicks on the "x," she will see the screen below. It shows six games, but four are locked. If the child clicks on a locked game, it takes her back to the first page to purchase a subscription.

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[108] The channel had 6,615,599 subscribers as of Dec. 4, 2018. https://perma.cc/A9NZ-CPU3.

Oftentimes, game characters urge children to make in-app purchases. Young children are particularly vulnerable to sales pitches from characters that they know and love. For this reason, the Federal Communications Commission has long prohibited host-selling in television programs designed for children.[109] As the *Michigan Study* explained, "children are known to develop trusting, emotional para-social relationships with media characters and they pay more attention to and learn better from familiar characters."[110] When characters make direct sales pitches or show disapproval when a user chooses not to make a purchase, the child may feel especially pressured.[111] The Child Advocates' October 30 letter to the FTC described how in *Doctor Kids* by Budabu, the game's main character cried if the child did not make an in-app purchase.

Google has designed the Family section of the Play Store to give prominence to apps that feature popular characters from television, movies or YouTube. When one clicks on the Family

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[109] *Children's Television Report and Policy Statement*, 50 FCC 2d 1 (1974), affd., *Action for Children's Television* v. FCC, 564 F.2d 458 (D.C. Cir. 1977).

[110] *Michigan Study* at 7. *See also* Bond, B. J., & Calvert, S. L. (2014). A model and measure of US parents' perceptions of young children's para-social relationships. *Journal of Children and Media*, *8*(3), 286–304. https://doi.org/10.1080/17482798.2014.890948.

[111] *Michigan Study* at 7.

section, the apps are arranged in categories such as "Popular games for kids," and "New + updated." The fourth category is "Popular characters." The screenshot below shows a segment of that category.
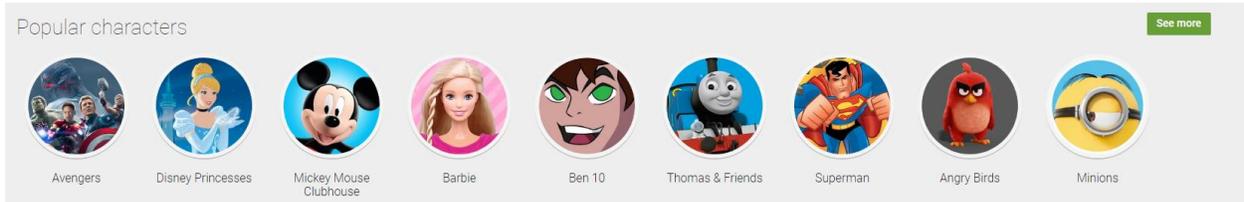
If the parent clicks on, for example, Strawberry Shortcake, apps featuring Strawberry Shortcake will be displayed, as shown below.
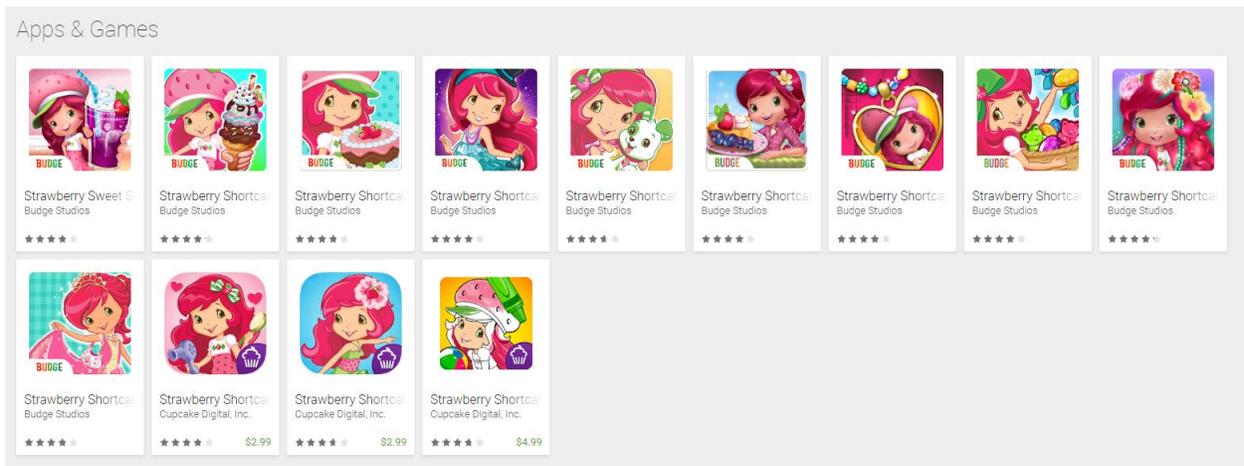
While we did not play all of these apps, we did play *Strawberry Shortcake Puppy Palace*, by Budge Studies (ages 6-8). In the app, Strawberry Shortcake tells children to pick a puppy to play with. Only one of eight puppies can be selected for free; the other have locks.

If the child clicks on a puppy with a lock, the screen below appears and Strawberry Shortcake says, "Oops. To play with [name of puppy], you'll need to get the puppy pack. Or you can unlock everything and get the best deal."

During gameplay, Strawberry Shortcake tells the child that the puppy is sad and she should give him want he wants (as shown in a thought bubble). But oftentimes the desired item is locked, and when the child selects it, Strawberry Shortcake says to buy the activities pack to keep the puppy happy. Having a beloved children's character tell a young child a puppy will be sad unless you make an in-app purchase is clearly an "overly aggressive commercial tactic."

Parents reasonably expect that free children's apps will not be designed so that a child will fail at the game unless they make in-app purchases. As shown in Exhibit 9, many parent reviews complain about excessive in-app purchases. Since many apps use in the DFF program use "overly aggressive commercial tactics" despite Google's representations that DFF apps will not do so, Google is deceiving parents and violating Section 5.

E. **Apps in the Family section contain content that is inappropriate for children**

Parents expect that the content of apps in the Family section will be appropriate for children. In fact, the DFF program requirements state that "[a]pp content must be appropriate for children."[112] Examples of inappropriate content are "[a]pps that include violence, gore, or shocking content not appropriate for children."[113] Google "reserves the right to reject or remove any app determined to be inappropriate" for the DFF program.[114]

We know of only one instance in which Google has removed an app from the Family section due to inappropriate content. In January 2018, Google removed *Blaze and the Monster Machines*, an app based on the Nick Jr. show of the same name, after parents in the United Kingdom complained that a voice in the app threatened children with a knife.[115] The BBC reported: "Google pulled the app, saying: 'We have a set of policies designed to provide a great experience for users and developers and we act quickly to remove apps from Google Play that violate those policies.'" To which the chief executive of SafeToNet responded, "While we

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[112] *DFF Program Requirements*, Ex. 3 at 3.002.
[113] *Id.* at 3.
[114] *Id.*
[115] Jane Wakefield, *Knife-threatening app banned by Google*, BBC News (Jan. 25, 2018), https://www.bbc.com/news/technology-42821938.

applaud Google's response of taking the app down, it is simply too late. By the time content has

been flagged to Google or any other app store, it will have been seen by millions of children."[116]

Parents expect that child-targeted apps will not advocate or portray actions that are

frightening to children or could result in serious bodily harm, such as threatening someone with a

knife. This understanding is also reflected in the guidelines of the Children's Advertising Review

Unit (CARU)[117] and in FTC cases finding that "ads that show young children engaging in

potentially hazardous activities, such as cooking hot foods or using a blowdryer next to a

bathroom sink filled with water, are unfair even though adults might reasonably avoid injury

when engaging in similar activities." [118]

Our research, however, found many apps in the Family section that portrayed activities

that could result in serious harm if imitated by children or contained other inappropriate

depictions. As shown in the screenshot on the left below from *Crazy Eye Clinic – Doctor X* by

TabTale, the child is told to pry open the patient's eyes with clamps and use tweezers to pick out

eyelashes. [119] And *Ear Doctor Clinic Kids Games* by BATOKI, shown on the right, tells children

to use scissors to cut the hair around and inside an infected ear. [120]

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[116] *Id.*

[117] CARU Guidelines caution advertisers about unsafe advertising given "that children are prone to exploration, imitation, and experimentation and may imitate product demonstrations or other activities depicted in advertisements without regard to risk." http://www.asrcreviews.org/wp-content/uploads/2012/04/Self-Regulatory-Program-for-Childrens-Advertising-Revised-2014-.pdf.

[118] Roscoe B. Starek, III, *The ABCs at the FTC: Marketing and Advertising to Children*, (Jul. 25, 1997), https://www.ftc.gov/public-statements/1997/07/abcs-ftc-marketing-and-advertising-children.

[119] Google Play Store, *Crazy Eye Clinic – Doctor X*, https://perma.cc/4FVA-LGAN (archived Dec. 13, 2018).

[120] Google Play Store, *Ear Doctor Clinic Kids Games,* https://perma.cc/2Y59-HRT2 (archived Dec. 13, 2018). One of the reviews called this game "gross and not for kids."

Some apps show other kinds of disturbing content. For example, in *Sweet Baby Daycare 4 – Babysitting Fun* by TutoTOONS (8 & under), children undertake various tasks to earn coins, including changing a baby girl's diaper. On-screen arrows direct the child to remove the baby's diaper and to wipe the child's genitals with a cloth. Next, the child is directed to sprinkle powder on the baby and then, as shown below, to use the disembodied hand to rub the powder all over the baby's body.

While some additional examples of dangerous or disturbing content are included in Exhibit 12, these are by no means all that we found in the Family section. Thus, Google's representations that it polices the content of apps in the Family section of the Play Store is misleading.

III.   **Conclusion and Request for Relief**

The Family section of the Play Store has thousands of apps. Parents who want to download apps for their children act reasonably in following Google's advice to limit their search to the Family section or to look for the family-friendly star. Unfortunately, Google's representations about the apps in the Family section are often false or misleading. As shown above, many apps do not comply with COPPA, engage in prohibited behavioral advertising, show inappropriate ads, use unfair or deceptive marketing practices, and/or show ads or content inappropriate for children. Such misrepresentations violate Section 5 of the FTC Act.

We strongly urge the FTC to promptly investigate Google's practices in connection with the DFF program and the Family section of Google Play and enjoin Google from making any further misrepresentations. Specifically, we ask the FTC to prohibit Google from including any app in the Family section, or representing that an app is appropriate for children, unless and until it has subjected the app to testing and human review and finds that the app complies with all of the DFF criteria for inclusion in the DFF program, and is consistent with reasonable expectations of parents about what is appropriate for children. To the extent that Google is currently subjecting apps to human review, the company must devote more resources to the process and ensure that it is actually capable of identifying and rejecting offending apps. It is crucial that the FTC to step in and take strong action in light of Google's substantial economic incentives for lax enforcement of its DFF criteria.

Respectfully Submitted,

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Consumer Federation of America, Consumer
Watchdog, Defending the Early Years, EPIC,
Media Education Foundation, New Dream,
Open MIC, Parents Across America, Parent
Coalition for Student Privacy, Parents
Television Council, P.E.A.C.E., Privacy
Rights Clearinghouse, Public Citizen, Story
of Stuff, TRUCE and U.S. PIRG

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[*] This request was drafted with considerable assistance from Rachel Johns, Allegra Kauffman, and Bridget O'Connell, law students in the Institute for Public Representation Communications & Technology Clinic.

List of Exhibits

1. *How Game Apps That Captivate Kids Have Been Collecting Their Data*, New York Times, (Sept. 12, 2018).

2. *DFF Guide for Developers*

3. *DFF Program Requirements*

4. *DFF Addendum*

5. Segmentation & Hybrid Model Graphic, from AdMob, *A Winning Combination - How using in-app purchases and ads together can maximize mobile game revenue*

6. *Parent Guide*

7. *DFF Ads & Monetization*

8. Examples of apps that transmit location data to third parties

9. Examples of third parties receiving personal information from apps in the Family section

10. Apps sending personal information unencrypted to third parties

11. Reviews complaining about excessive in-app purchases

12. Examples of inappropriate content for children's apps

SECTIONS

The New York Times

How Game Apps That Captivate Kids Have Been Collecting Their Data

A lawsuit by New Mexico's attorney general accuses a popular app maker, as well as online ad businesses run by Google and Twitter, of violating children's privacy law.

By JENNIFER VALENTINO-DeVRIES, NATASHA SINGER, AARON KROLIK and MICHAEL H. KELLER   SEPT. 12, 2018
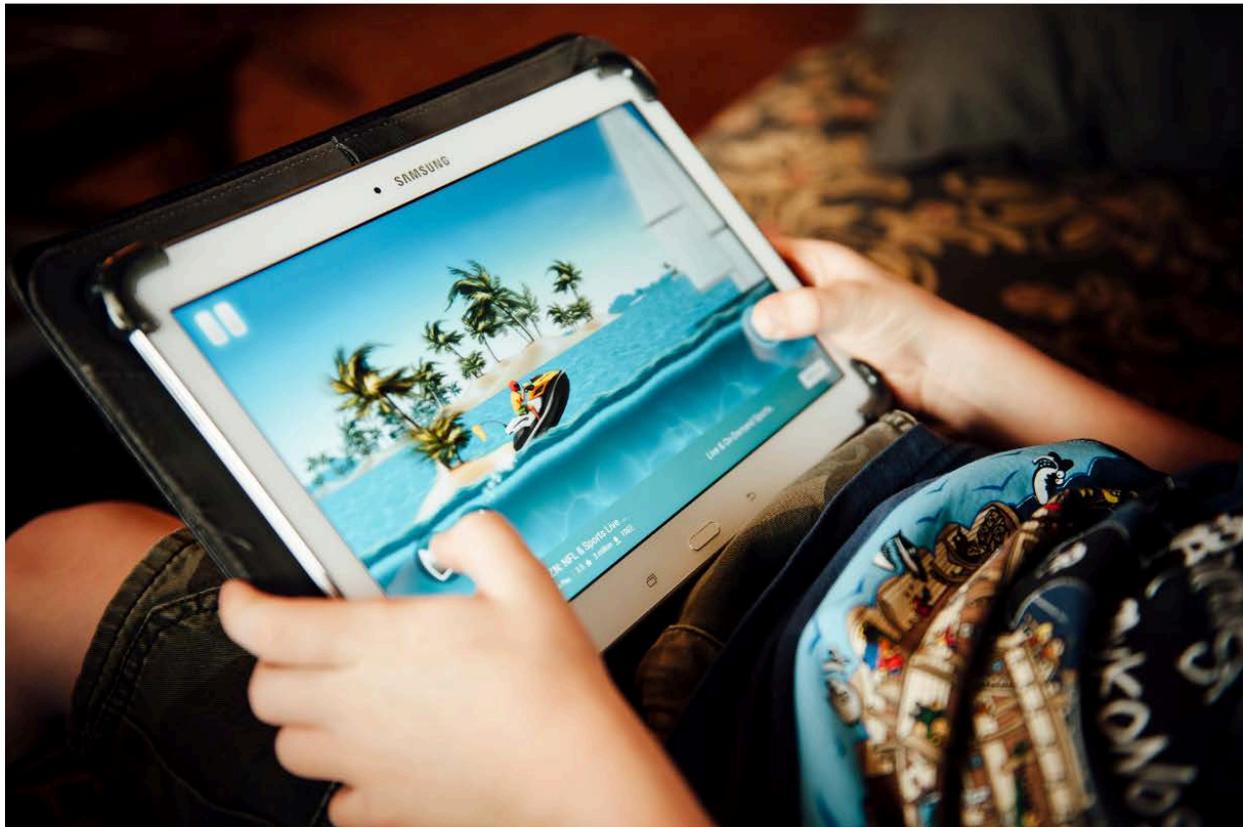
Shane Slingerland, 6, playing Fun Kid Racing, a game downloaded from the family section of the Google Play store. Bryce Meyer for The New York Times

Exhibit 1.002

Before Kim Slingerland downloaded the Fun Kid Racing app for her then-5-year-old son, Shane, she checked to make sure it was in the family section of the Google Play store and rated as age-appropriate. The game, which lets children race cartoon cars with animal drivers, has been downloaded millions of times.

Until last month, the app also shared users' data, sometimes including the precise location of devices, with more than a half-dozen advertising and online tracking companies. On Tuesday evening, New Mexico's attorney general filed a lawsuit claiming that the maker of Fun Kid Racing had violated a federal children's privacy law through dozens of Android apps that shared children's data.

"I don't think it's right," said Ms. Slingerland, a mother of three in Alberta, Canada. "I don't think that's any of their business, location or anything like that."

Kim Slingerland said she was troubled to learn that a game app she had downloaded for her son had shared personal data, including location information. Bryce Meyer for The New York Times

Exhibit 1.003

The suit accuses the app maker, Tiny Lab Productions, along with online ad businesses run by Google, Twitter and three other companies, of flouting a law intended to prevent the personal data of children under 13 from falling into the hands of predators, hackers and manipulative marketers. The suit also contends that Google misled consumers by including the apps in the family section of its store.

[Read the *full complaint*]

An analysis by The New York Times found that children's apps by other developers were also collecting data. The review of 20 children's apps — 10 each on Google Android and Apple iOS — found examples on both platforms that sent data to tracking companies, potentially violating children's privacy law; the iOS apps sent less data over all.

These findings are consistent with those published this spring by academic researchers who analyzed nearly 6,000 free children's Android apps. They reported that more than half of the apps, including those by Tiny Lab, shared details with outside companies in ways that may have violated the law.

Although federal law doesn't provide many digital privacy protections for adults, there are safeguards for children under 13. The Children's Online Privacy Protection Act protects them from being improperly tracked, including for advertising purposes. Without explicit, verifiable permission from parents, children's sites and apps are prohibited from collecting personal details including names, email addresses, geolocation data and tracking codes like "cookies" if they're used for targeted ads.

But the New Mexico lawsuit and the analyses of children's apps suggest that some app developers, ad tech companies and app stores are falling short in protecting children's privacy.

Exhibit 1.004

"These sophisticated tech companies are not policing themselves," the New Mexico attorney general, Hector Balderas, said. "The children of this country ultimately pay the price."

"This is as much a black eye on the federal government as the tech space," Hector Balderas, New Mexico's attorney general, said of a lawsuit he filed this week alleging that Google and Twitter violated children's privacy law. Brent Lewis/The Denver Post, via Getty Images

Jessica Rich, a former consumer protection director at the Federal Trade Commission, called the findings "significant and disturbing." They suggest, she said, "that the 'safe spaces' for kids in the apps stores aren't safe at all."

A Google spokesman, Aaron Stein, said that developers are responsible for declaring whether their apps are primarily for children, and that apps in the store's family section "must comply with more stringent policies."

A Twitter spokesman said that the company's ad platform, MoPub, does not allow its services to be used to collect information from children's apps for targeted advertising and that it suspended the maker of Fun Kid Racing in September of 2017 for violating its policies.

Exhibit 1.005

Jonas Abromaitis, founder of the Lithuania-based Tiny Lab, said he believed he had followed the law and Google's requirements, because the app asked for users' ages and tracked those who identified as over 13. "We thought we were doing everything the right way," he said.

A Market for Tracking

Dozens of companies now track consumers on their phones to build behavioral profiles that help tailor the ads they see. Two of the largest are AdMob and MoPub.

To make money, app developers generally have two options: publish free apps supported by ads, or charge users. But children don't have the money to make purchases, and under federal law they can't be tracked for ad targeting.

Hundreds of app developers make mobile apps for children. Some of them sell ads in their apps to make money.

```
SAMPLE CODE

SDK.configureAds({
    id: deviceId,
    ipAddress: deviceIpAddress,
    location: userLocation
});
```

Ad-technology companies help put ads into apps. They make packages of code that help app makers run ads.

Exhibit 1.006

Children can download these games, which are often free, by clicking a few buttons.
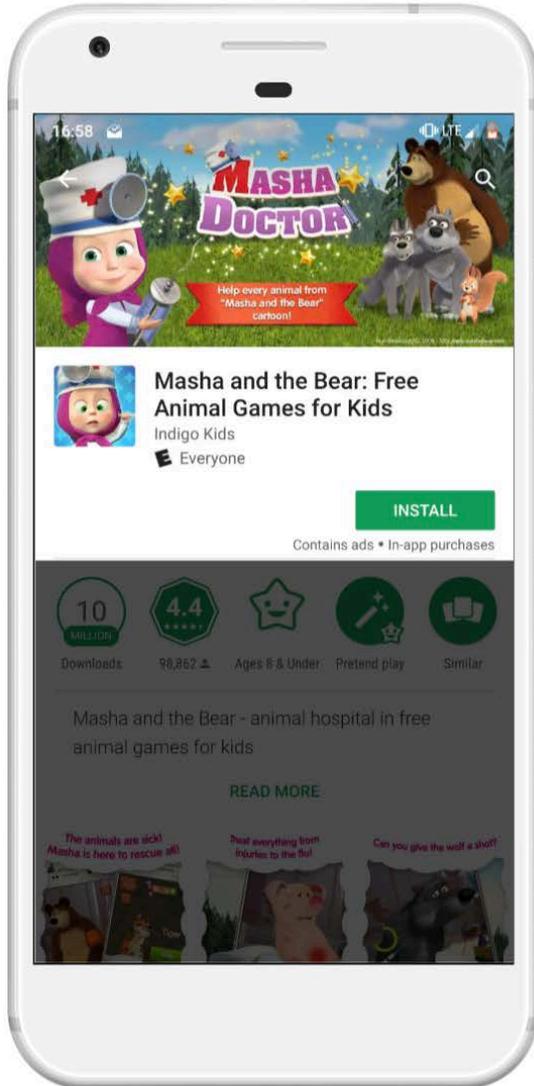
When a child starts using the app, personal data can be sent to ad-technology companies.

Some ad-technology companies don't collect this data, but many do because it helps personalize ads.

Sends personal information → **Ad-technology Companies**

Exhibit 1.007
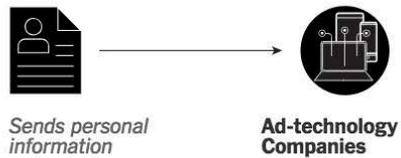
This information can include **IP address**, **location**, **demographic characteristics** and **ID numbers** that let ad companies track people.

Personal
information

Data is stored on servers of
ad-technology companies

SAMPLE DATA

```
{
  "deviceId": "52160626-7bc3",
  "ipAddress": "170.149.100.69",
  "location": [40.756,-73.990]
}
```
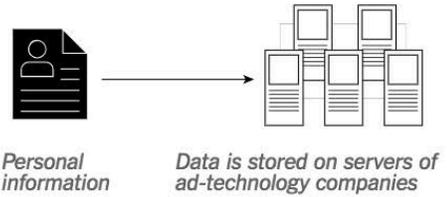
Based on the information that's sent to ad-technology companies about the user, they sell an ad.

Exhibit 1.008
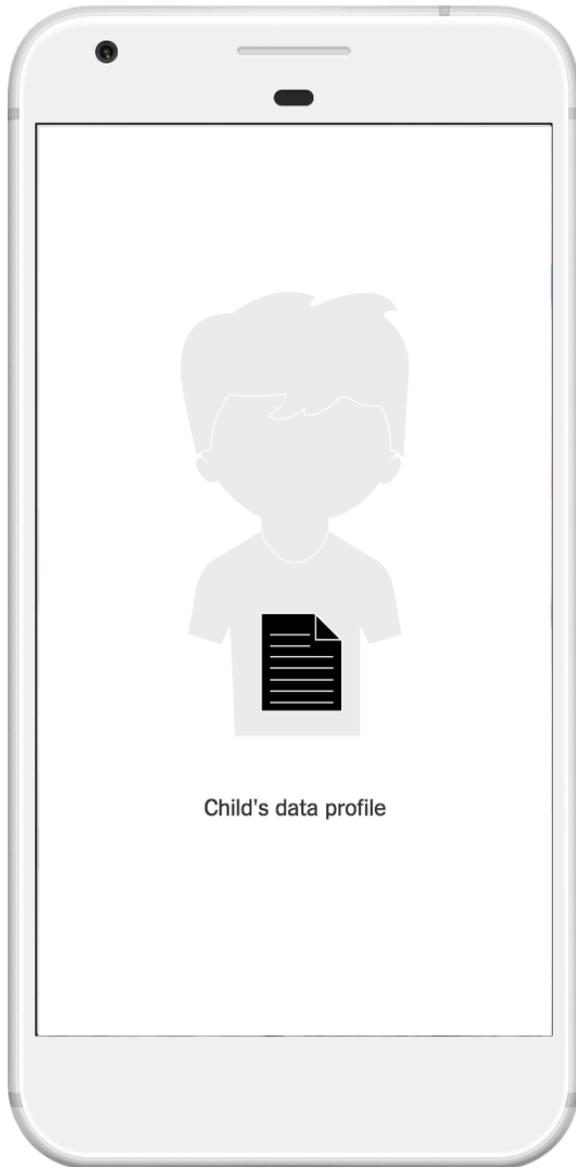
In the process, the ad-technology companies use the data to build **user profiles** associated with ID numbers.

Child's data profile

By Anjali Singhvi and Rich Harris

The app industry has had trouble adapting to children, said Dylan Collins, the chief executive of SuperAwesome, a technology firm that helps companies build apps for children without tracking them.

Exhibit 1.009

Mr. Collins said some top children's app makers had started charging parents for subscriptions or showing ads that didn't use tracking. But, he noted, small developers typically sell fewer subscriptions and don't always sell enough ads using only child-friendly ad networks. "As a result, there's still a huge amount of data being collected on kids," he said.

In 2013 Apple introduced a children's section in its App Store. It told developers that, to be listed there, they could "do no tracking across sites or across apps." Apple tells parents that it reviews each app in the section "to make sure it does what it says it does."

Google has said it developed the family section of its app store to help parents find "suitable, trusted, high-quality apps" for their children.
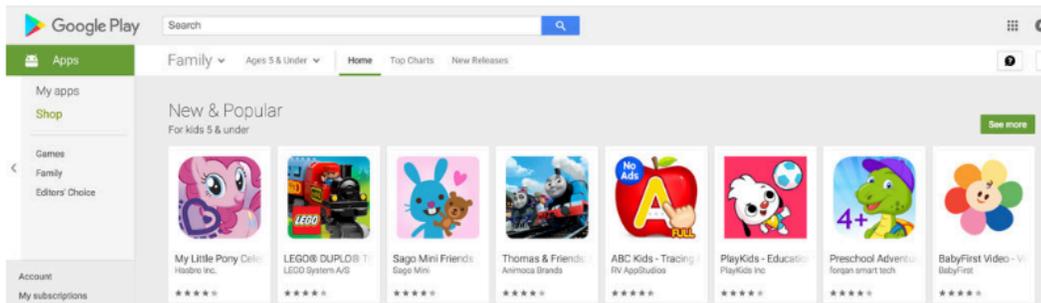
Google introduced a similar program, Designed for Families, in 2015. The company informed Android developers that apps that were "primarily child-directed must participate" in the program and that developers must confirm that their apps complied with the children's privacy law. Google has said it developed its family section to help parents find "suitable, trusted, high-quality apps" for their children.

Exhibit 1.010

'For Children' vs. 'for Families'

Mr. Abromaitis, the Tiny Lab founder, created Fun Kid Racing in 2013, after searching unsuccessfully for a racing game to play with his 3-year-old nephew. Other Tiny Lab apps include simple games with titles such as Run Cute Little Pony.

Still, Mr. Abromaitis said in an interview, the company's apps were directed at "mixed audiences," with children under 13 forming only part of the market.

The distinction is important: Under privacy law, apps aimed at younger children are prohibited from tracking any users for ads without parental consent, but those intended for a general audience can ask players their age and track older users.

Exhibit 1.011

When Tiny Lab submitted apps to Google's store, it indicated they were for families, not just children, and Google accepted the apps.

In The Times's tests of Fun Kid Racing in July, the app asked that players select their birth year from a list. But with the default set between 2000 and 2001, a young child eager to get to the next screen could simply tap through quickly and be counted as a teenager. In the tests, the app didn't collect location data if the player identified as under 13.

In early June, emails show, the academic researchers who had done the earlier study informed Google that app developers "seem to have an incentive to mischaracterize" their children's apps as "not primarily directed to children," freeing them to track users for targeted ads. They cited 84 apps from Tiny Lab as examples and said they had identified nearly 3,000 apps in all that appeared to be similarly mislabeled.

Jonas Abromaitis, founder of Tiny Lab Productions, says many of the company's apps are intended for "mixed audiences," not just young children. Andrej Vasilenko for The New York Times

In July, a Google manager responded that the company had investigated the Tiny Lab apps and had found they had not violated the privacy law. Google, he said, did not consider "these apps to be designed primarily for children, but for families in general."

Exhibit 1.012

A month later, Google appeared to reverse course: The company told Mr. Abromaitis it had identified a Tiny Lab app that should be designated for children. Google gave Tiny Lab a week to change that app and any others like it. Tiny Lab labeled 10 of its apps for children and used ad networks in them designed for children's apps. Google approved the updates but flagged more apps at the end of August, Mr. Abromaitis said, so he made another round of changes.

Then, this week, after inquiries from The Times, Google terminated Tiny Lab's account and removed all of its apps from the Play store, citing multiple policy violations.

Asked about the earlier emails, Google said the statements were made in error and that it doesn't certify whether apps in the Play store comply with the children's privacy law.

Mr. Abromaitis said he hoped to work with Google to get back into the store.

Widespread Tracking of Children

The study this spring showed not only that more than half of children's apps on Android were sharing tracking ID numbers but also that 5 percent collected children's location or contact information without their parents' permission.

To evaluate tracking on iOS as well as Android, The Times conducted a small study, looking at 10 apps on each platform. The Times chose a mix of the most popular children's apps and smaller apps that had been flagged in the academics' research for sharing data, to test whether the apps had problems on iOS and whether they had been fixed on Android.

Exhibit 1.013

Although it is difficult to know whether companies are actually violating the federal rules, six of the Android apps shared data such as precise location, IP addresses and tracking IDs in ways that could be problematic. On iOS, five apps sent IDs to tracking companies in questionable ways.

Serge Egelman, a researcher with the International Computer Science Institute and the University of California, Berkeley, helped lead the study of nearly 6,000 children's Android apps. Jim Wilson/The New York Times

In addition to Fun Kid Racing, the tests showed one other Android app sending precise location data to other companies: Masha and the Bear: Free Animal Games for Kids, an animated game app with millions of downloads. The iOS version sent advertising ID codes to a company that generally prohibits children's apps from using its network.

In an email, Indigo Kids, the Cyprus-based maker of the Masha app, said it was not responsible for harvesting children's information because third-party companies collected the data. "We, as a company, do not collect or store any data of our users," the company said.

Exhibit 1.014

Other apps with data practices that could violate the children's privacy rules sent data to multiple tracking companies that don't allow children's apps, or sent the data with notes in the computer code incorrectly indicating that it hadn't come from children.

Several apps reviewed by The Times also sent the advertising ID to other companies but said this was for specific purposes allowed under the law, such as preventing an ad from being shown too many times.

Tom Neumayr, an Apple spokesman, said that children's privacy in apps "is something we take very seriously" and that developers must follow strict guidelines about tracking in children's apps.

Enforcing the Law

Since the federal children's online privacy law was enacted in 1998, the Federal Trade Commission has brought nearly 30 cases alleging violations by companies including Sony BMG Music Entertainment and Yelp. All of those firms ultimately settled with the agency.

"The F.T.C. has made enforcement of the Children's Online Privacy Protection Act a high priority," said Juliana Gruenwald, an agency spokeswoman.

But the New Mexico lawsuit is different. The state is not just going after a single app maker or ad company; it's also implicating the ad platforms of Google and Twitter, and the vetting process of Google's app store.

Exhibit 2.001
DFF Guide for Developers

Designed for Families

If you've built great apps designed for kids or families, the family discovery experience on Google Play is a great way to surface them to parents.

Benefits

Designed for Families expands the visibility of your family content on Google Play, helping parents easily find your family-friendly apps and games throughout the store. Other features create a trusted environment that empowers parents to make informed decisions and engage with your content.

FEATURE

Search

Only apps and games that are part of the Designed for Families program will show up in searches initiated from the Family section in Apps Home. They'll also be more visible when users are searching for family or kid related content from anywhere in the Play Store.
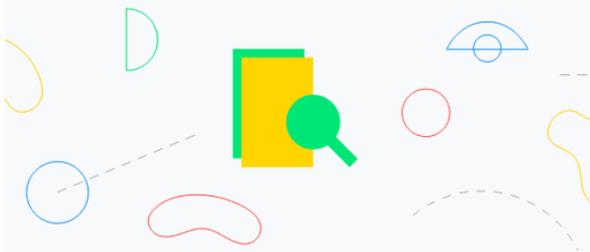
FEATURE

Browse

The Family button on Apps and Games Home points to an enhanced discovery experience for parents looking for family appropriate content. The Family section includes uniquely merchandised content, family specific categories, and age-based browsing. Apps in the Designed for Families program receive this additional visibility on top of their existing categories, rankings, and reviews elsewhere on the Google Play Store.

Exhibit 2.002
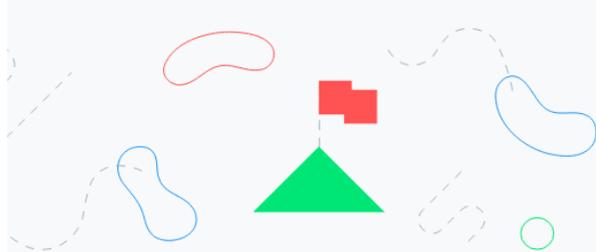
FEATURE

Character pages

Parents can discover content for popular characters from around the globe in one place, including apps, games, movies, TV shows, books, and even music. This provides a powerful way for parents to discover content from familiar brands and beloved characters, and allows you to reach a highly relevant and targeted audience.

FEATURE

Merchandising

The family section includes special merchandised collections. The themed collections on these pages are curated and limited to content accepted into the Designed for Families program.

Exhibit 2.003
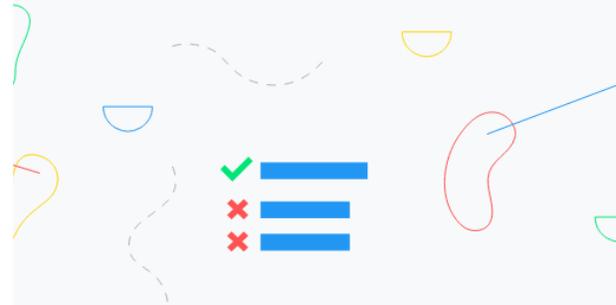
How to participate

Apps that are primarily child-directed must participate in the Designed for Families program. Apps that are not primarily child-directed but are designed for kids and families can opt in for inclusion in the Designed for Families program.

Eligibility

All apps participating in the Designed for Families program must be relevant for children under the age of 13. To participate, there are specific guidelines and policies your apps need to meet, which are assessed in an app content review. Make sure that you're familiar with the policies that your app must comply with. These include content policies, the Developer Distribution Agreement, and the Designed for Families DDA Addendum. Your app must also meet the Designed for Families program requirements.

Program requirements

Visit the Families section of the Google Play Developer Policy Center for information on the policies governing which apps and games can opt-in to Designed for Families.

Opt-in

You can opt-in to Designed for Families from the All Applications page in the Play Console, under Pricing and Distribution.

Exhibit 3.001
DFF Program Requirements

Families and COPPA

Google Play offers a rich platform for developers to showcase trusted, high-quality and age appropriate content for the whole family. Before submitting an app to the Designed for Families program, ensure your app is appropriate for children and compliant with COPPA and other relevant laws.

Designed for Families   COPPA Compliance and Child-Directed Apps (/about/families/coppa-compliance/)

Designed for Families

If you've built great apps designed for kids and/or families - participating in the Designed for Families program on Google Play is a great way to surface your apps to the right users. Read this section to better understand policies and program requirements to take part in the Designed for Families program. For more information on the process of opting into the program, click **here (https://support.google.com/googleplay/android-developer/answer/7018303?hl=en)**.

Before you opt-in, your app must meet all the Designed for Families program requirements, **Google Play Developer Program Policies (../../../../about/developer-content-policy.html)** and **Developer Distribution Agreement (https://play.google.com/intl/ALL_us/about/developer-distribution-agreement.html)**, including the **Designed for Families DDA Addendum (https://play.google.com/intl/ALL_us/about/families/developer-distribution-agreement-addendum.html)**.

Program Requirements
(/about/families/designed-for-families/program-requirements/)

Eligibility   Exhibit 3.002

All apps participating in the Designed for Families program must be relevant for children under the age of 13 and comply with the eligibility criteria below. App content must be appropriate for children. Google Play reserves the right to reject or remove any app determined to be inappropriate for the Designed for Families program.

Eligibility Criteria

1. Apps must be rated as ESRB Everyone or Everyone 10+, or equivalent.
2. If your Designed for Families app displays ads, you confirm that:

    2.1 You comply with applicable legal obligations relating to advertising to children.

    2.2 Ads displayed to child audiences do not involve interest-based advertising or remarketing.

    2.3 Ads displayed to child audiences present content that is appropriate for children.

    2.4 Ads displayed to child audiences follow the Designed for Families ad format requirements.

3. You must accurately disclose the app's interactive elements on the content rating questionnaire, including:

    3.1 Users can interact or exchange information

    3.2 Shares user-provided personal information with third parties

    3.3 Shares the user's physical location with other users

4. Apps that target child audiences may not use Google Sign-In or any other Google API Service that accesses data associated with a Google Account. This restriction includes Google Play Games Services and any other Google API Service using the OAuth technology for authentication and authorization. Apps that target both children and older audiences (mixed audience), should not require users to sign in to a Google Account, but can offer, for example, Google Sign-In or Google Play Games Services as an optional feature. In these cases, users must be able to access the application in its entirety without signing into a Google Account.

5. If your app targets child audiences and uses the **Android Speech API (http://developer.android.com/reference/android/speech/package-summary.html)**, your app's RecognizerIntent.EXTRA_CALLING_PACKAGE must be set to its PackageName.

6. You must add a link to your app's privacy policy on your app's store listing page.

7. You represent that apps submitted to Designed for Families are compliant with COPPA (Children's Online Privacy Protection Rule), the EU General Data Protection Regulation 2016/679, and other relevant statutes, including any APIs that your app uses to provide the service.

8. If your app uses Augmented Reality, you must include a safety warning upon launch of the app that contains the following:

    8.1 An appropriate message about the importance of parental supervision

    8.2 A reminder to be aware of physical hazards in the real world (e.g., be aware of your surroundings)

9. Daydream apps are not eligible to participate in the Designed for Families program.

10. All user-generated content (UGC) apps must be proactively moderated.

Exhibit 3.003

Apps accepted to the Designed for Families program need to stay compliant with the program's eligibility requirements at all times.

Here are some examples of common violations:

- General utility/productivity apps that are not marketed towards a child audience (e.g., calculator, ringtones, flashlight, apps intended for parents).
- Apps that glamorize the use of alcohol or tobacco in a non-educational manner.
- Apps that include simulated gambling.
- Apps that include violence, gore, or shocking content not appropriate for children.
- Apps that provide dating services or offer sexual or marital advice.

Age Groups

Misrepresentation of your app's age group may result in removal or suspension, so it is important to provide accurate declaration.

Primarily Child-Directed Apps
Here are the age groups available for apps primarily directed to children in the Designed for Families program:

- Ages 5 & Under
- Ages 6-8
- Ages 9-12

Apps declared as primarily child-directed may not choose Mixed Audience as an age group.

When you declare, select an age group based on your app's primary target audience. If you include an age group in your app's title or description, this is considered your app's primary age target during review.You should only select two age groups if you've designed your app for users in both age groups. Your app's content needs to be appropriate for children in each age group. For example: Apps designed for babies, toddlers, and preschool children should only select "Ages 5 & Under." If your app is designed for a specific grade level, choose the age range the best represents the grade.

Mixed Audience

If your app is designed for both children under the age of 13 as well as teens or adults, you must select the mixed audience category. Mixed audience apps will display a family star badge that indicates they're family-friendly, without specifying an age group.

Exhibit 3.004

If your app is not designed for audiences that include children under the age of 13, it won't be accepted into the Designed for Families program. For example: Calculator apps, maps, wallpapers, recipe books, and games that aren't specifically designed for children shouldn't be opted-in to the program.

Updates to Age

After you've been accepted to the Designed for Families program, if you need to update your app's age group, you can update your information using the Play Console.

We strongly recommend you let your existing users know if you change the target age level of your app or start using ads or in-app purchases using the "What's New" section of your app's store listing page.

Categories

When you opt-in to the Designed for Families program, you can choose a category. Your app will also be available on Google Play in the general app category you select on your app's store listing page.

Here are the categories available for Designed for Families:

Action & Adventure: Action-oriented apps/games, including everything from racing games, fairy tale adventures, and more.

Brain Games: Games that make the user think, including puzzles, matching games, and similar games.

Creativity: Apps and games that spur creativity, including drawing, painting, coding, and other games where you can build things.

Education: Apps and games that are primarily education-focused, including math, science, learning the alphabet, learning to count, geography, history, and other types of educational content.

Music and Video: Apps and games with a musical element or video component, including everything from playing the piano to watching videos and more.

Pretend Play: Apps and games where the user can pretend to take on a role, like pretending to be a cook or a doctor.

Ads & Monetization

(/about/families/designed-for-families/ads-and-monetization/)

Google Play

Designed for Families Addendum

April 14, 2015

By opting into the Designed for Families program, You consent to be bound by these terms in addition to the existing Google Play Developer Distribution Agreement and Google Play Developer Program Policies (the "Agreement"). If there is a conflict between these terms and the Agreement, these terms govern. Capitalized terms used below but not defined below have the meaning ascribed to them under the Agreement.

1. **Participation.** Your participation in the Designed for Families program provides you with the ability to promote your app that is designed for kids and family audiences. As part of this program, you are responsible for maintaining compliance with the Designed for Families Program Requirements.

2. **Content Ratings**. You alone are responsible for providing accurate and up to date information to establish your app(s) content rating on Google Play.

3. **Play for Families Badges.** By opting into Designed for Families, you must select a target audience for your app. You are responsible for ensuring that all of the content in your app(s) (including any advertising) is appropriate for the target audience that you select.

4. **Legal Compliance.** You represent that apps submitted to Designed for Families are compliant with COPPA (Children's Online Privacy Protection Rule) and other relevant statutes, including any APIs that your app uses to provide the service. You must maintain a user-facing privacy policy. You must also provide clear disclosures on what data your app collects from users and how that data is used.

5. **Approval and Public Availability.** By submitting apps to the Designed for Families program, your app will be subject to a special review process, and the decision to include each app is in Google's sole discretion.

Exhibit 4.002

6. **Suspension or Termination.** Your failure to comply with the Designed for Families Program Requirements may result in the immediate suspension or removal of your app(s) from the Designed for Families Program and in some circumstances may result in removal of your app(s) from the Google Play store.

© Google · Privacy & Terms · Help

United States ▼
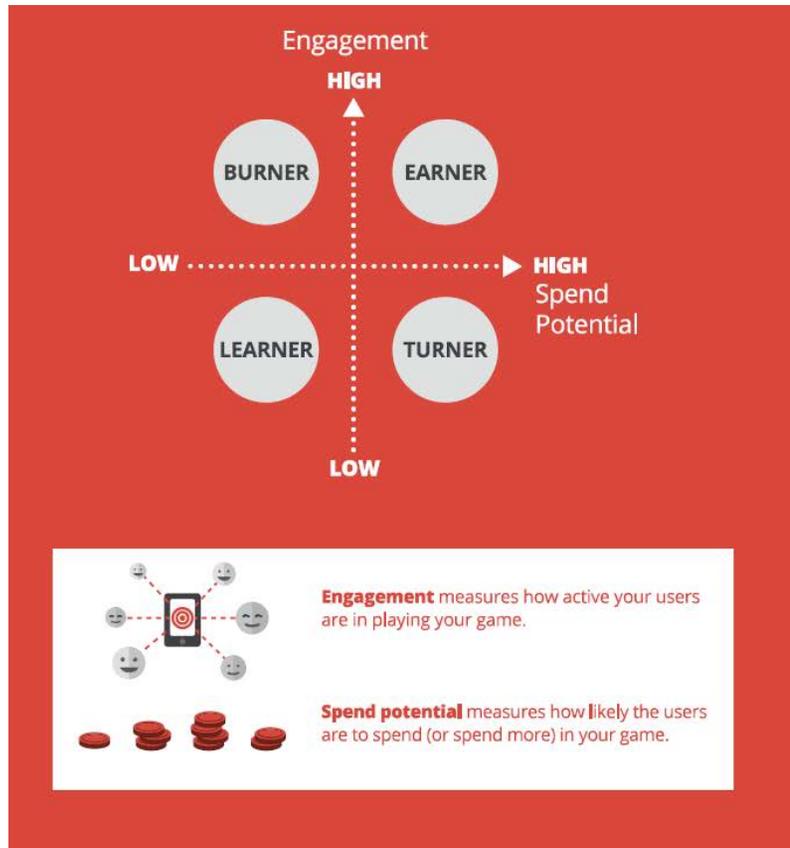
A framework for segmenting users

Here are some ideas for segments based on spend potential and engagement, and how each segment can be treated:

Learners: Tutorials, free gifts, few to no ads or IAP promotions can help these new users become familiar with a game quickly. To retain users that are likely to stop playing, developers can re-engage them with new characters, items, or events or steer them to other games with cross-promotion house ads.

Burners: For these users who burn time in your game but don't spend, you can monetize them with ads. In addition, IAPs can be strategically promoted when the user is stuck at a level. You can also encourage social sharing by these users by rewarding them with free gifts to keep them engaged.

Turners: For users with high-spend potential but less activity, the goal is to turn them into active users and high spenders. When they become loyal users, they are more likely to spend. You can target these users who have reached a certain level with a promoted IAP item or show them new in-game events or new feature demos. If they remain unengaged, limited-time offerings can be promoted or they can be steered to another game with cross-promotion house ads.

Earners: You should optimize your IAP strategy to maximize revenue for this group. Strategies include promoting high-value IAPs to these users to maintain their engagement and increase average revenue per paying user.

Exhibit 6.001
Parent Guide

Find family-friendly content in Google Play

You can find family-friendly content from trusted brands in Google Play. Read the sections below to learn different ways to find family content.

Ways to find family content

Browse the Family section

1. Open the Play Store app on your device ▶.
2. Tap **Games**, **Movies & TV**, or **Books**.
3. At the top, tap **Family**. In the Books section, select **Children's Books** instead.
4. From here, you can also browse content by age, family categories, or popular characters.

Search for family content

Start a search inside the Family section

Your results are filtered so you only see family-friendly content. To see unfiltered results, tap **Show all results**.

Start a search outside the Family section

Your results won't be filtered. This means you'll see include content from across the Play store, not just family-friendly content.

Tip: To prevent anyone who uses your device from downloading or purchasing mature content, set up parental controls   .

Look for the family star

When you're on Google Play, look for the family star to help you identify Family friendly content ⭐.

You can find the star badge that shows the suggested age range on the content's details page.

What the star badge means

The way content gets a star badge varies between different types of content. Read the sections below to

Exhibit 6.002

The star badge tells you what age group the developer designed for their app or game for.

On the badge, you may see:

- **Family-friendly:** Mixed audience of kids and adults
- **Ages:** Specific age ranges between 0 and 12 years old

We recommend parental guidance on any apps not designed solely for children.

Note: Developers might make changes to their app or game, so check for the star badge and review the information above before installing an app update.

Movies & TV

Books

Check an app's privacy policy

All apps and games that have a star badge have to include a link to their privacy policy at the bottom of the app details page.

We recommend that you review the privacy policy before downloading the app to learn how the app collects and uses personal information.

Troubleshoot problems

Report a problem

I don't see the family star

Related articles

- Parent Guide to Google Play
- Set up parental controls on Google Play

Was this article helpful?

Exhibit 6.003

Google Play apps & digital content

📄 Get Android apps and digital content from the Google Play Store

📄 Pre-order on Google Play

📄 Update your Android apps

📄 Help protect against harmful apps with Google Play Protect

📄 **Find family-friendly content in Google Play**

📄 Set up parental controls on Google Play

📄 Use Google Play on your device or computer

📄 Connectivity and system requirements

📄 User policies for apps & digital content

📄 Google Play on Chromebooks

📄 Use Play Instant Apps

📄 Learn about instant apps

📄 Fix problems with Android Instant Apps

📄 Fix an installed Android app that isn't working

English   ▼

Exhibit 6.004

Exhibit 7.001

DFF Ads & Monetization

Ads & Monetization

(/about/families/designed-for-families/ads-and-monetization/)

All apps participating in the Designed for Families program must comply with the following policy and quality requirements for ads as well as Play's general **policy guidelines and practices (../../about/developer-content-policy/)**. This policy applies to any advertising or commercial content (such as paid product placement or offers to make in-app purchases) served to the user for the benefit of a sponsor. Additionally, advertising and commercial content must comply with applicable laws and regulations (including any relevant self-regulatory or industry guidelines).

Ad format requirements

Ads in apps participating in Designed for Families must not have deceptive content or be designed in a way that will result in inadvertent clicks from child users. For example:

- **Ad walls (../../about/monetization-ads/)** must not be used
- Interstitial ads must not display immediately upon app launch
- A maximum of one ad placement per page
- Ads must be clearly distinguishable from app content

Here are some examples of common violations:

- Ad that moves away from your finger as you try to close it
- More than one ad placement per page.
- Ad that takes up the majority or the entire screen without providing the user a clear way to dismiss it, as depicted in the example below:
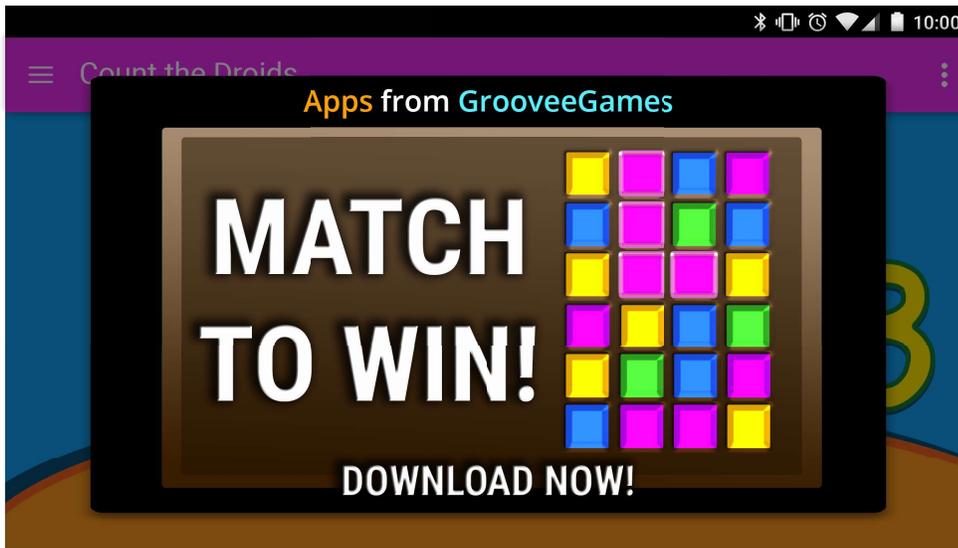
- Banner ad showing multiple offers in one placement:
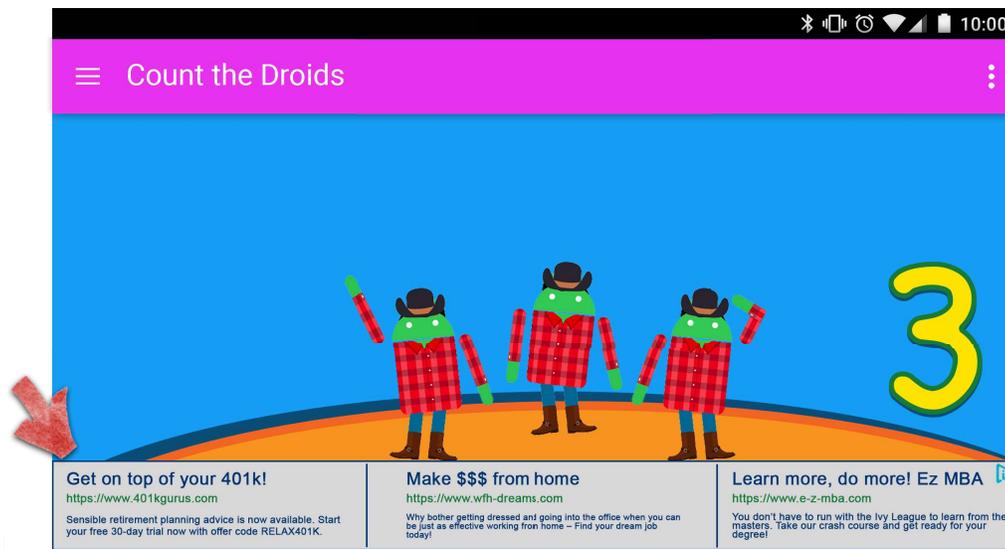
- Ads that could be mistaken by the user for app content:
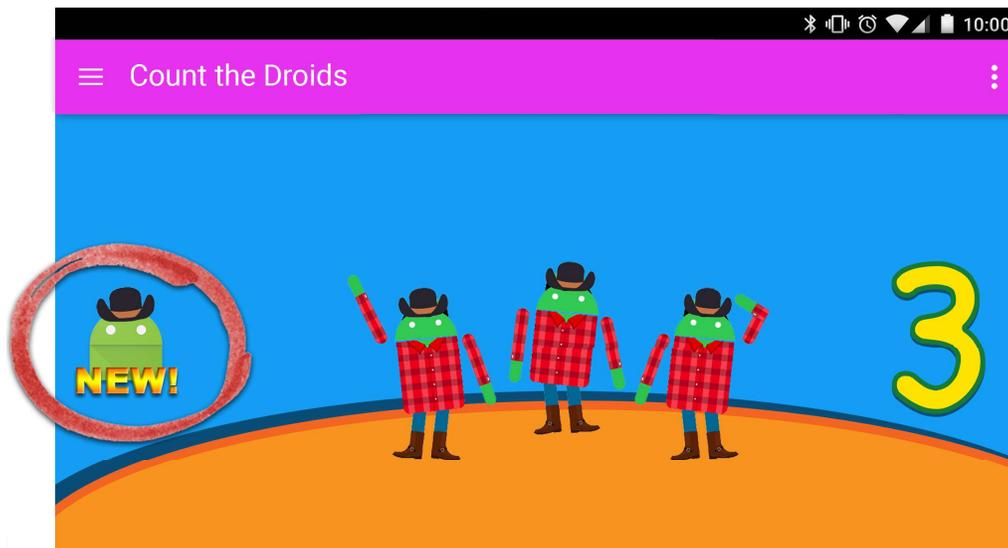
- **Note:** Developers are **allowed** to promote their other Play store listings with buttons or ads that are distinguishable from app content:
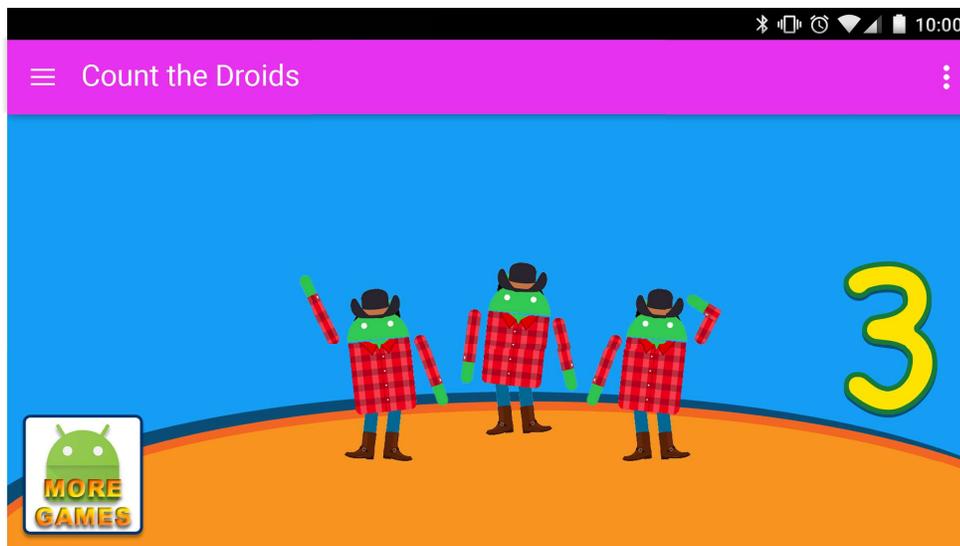
Ad targeting and data collection

Ads displayed to child audiences must comply with laws relating to advertising to kids. For example, your app must disable interest-based advertising and remarketing, and should comply with child relevant regulations and industry standards for all countries where the app is distributed.

Appropriate ad content

Apps that participate in the Designed for Families program must present ad content that is appropriate for children.

The following are examples of ads not allowed in the Designed for Families program. Please note this is not an exhaustive list.

- **Media Content**: Ads for TV shows, movies, music albums, or any other media outlet not appropriate for children.
- **Video Games & Downloadable Software**: Ads for downloadable software and electronic video games that are not appropriate for children.
- **Controlled or Uncontrolled Substances**: Ads for alcohol, tobacco, controlled or uncontrolled substances.
- **Gambling**: Ads for simulated gambling, contests or sweepstakes promotions, even if free to enter.
- **Adult and Sexually Suggestive Content**: Ads with sexual and mature content.
- **Dating or Relationships**: Ads for dating sites:
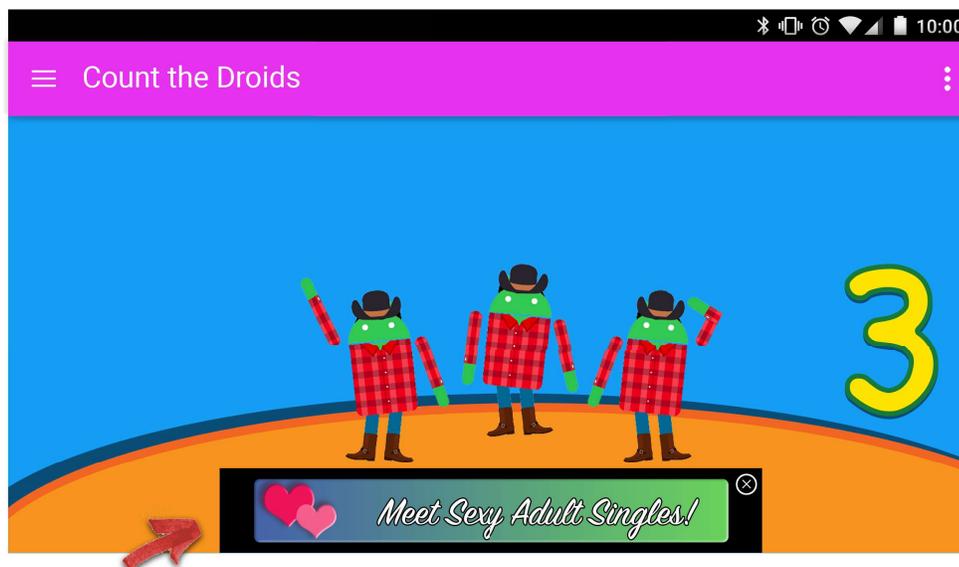
- **Violent Content**: Ads with violent and graphic content not appropriate for children.

Ad networks

To find out if your ad network is compliant with Designed for Families **ads policies (https://support.google.com/googleplay/android-developer/answer/6231938?rd=1#ads)**, contact your ad network to ask them about their content policies and advertising practices.

If you use AdMob, refer to the **AdMob Help Center (https://support.google.com/admob/answer/6223431? hl=en)** for more details on their products.

It is your responsibility to ensure your app's overall experience with in-app advertising meets the Designed for Families program requirements.

Using ads

Apps and games in the Designed for Families program can have ads as long as they follow the ads policy for Designed for Families. Before opting-in, make sure to review the **ads policy (https://support.google.com/googleplay/android-developer/answer/6184502#ads)** to make sure your app comply with all requirements.

In-app purchases & other commercial content

There are no specific restrictions relating to in-app purchases (IAP) in apps participating in the Designed for Families program.

Google Play reserves the right to reject apps for overly aggressive commercial tactics. Google Play will enforce IAP password protection on all apps participating in the Designed for Families program that primarily target child audiences to ensure that parents, not children, are approving purchases.

Note: This treatment does not extend to apps targeting mixed audiences.

Authentication ...

(/about/families/designed-for-families/authentication/)

Was this article helpful?

YES   NO

Next

COPPA Compliance and Child-Directed Apps

(/about/families/coppa-compliance/

Exhibit 8.001
Examples of apps that transmit location data to third parties

Preschool Education Center

Preschool & Kindergarten Learning Kids Games
Education   Education

★ ★ ★ ★ ☆ 494 👤

🎫 Everyone   ⭐ Ages 8 & Under

Offers in-app purchases
⚠️ You don't have any devices.

🔖 Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
control.kochava.com	Advertising ID	Yes
control.kochava.com	Android ID	Yes
control.kochava.com	Device Description	Yes
control.kochava.com	Router MAC Address	Yes
control.kochava.com	Router SSID	Yes
graph.facebook.com	Advertising ID	Yes

https://www.appcensus.mobi/app/air.mobi.kidsacademy.gp.container5.free/1002000

Exhibit 8.002

Top 28 Nursery Rhymes and Song

DT GAMES   Education   Education   ★ ★ ★ ★ ★ 8,727 👤

📕 Everyone   ⭐ Ages 8 & Under

Contains Ads
⚠️ You don't have any devices.

🔖 Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
ads.flurry.com	Advertising ID	Yes
ads.flurry.com	Android ID	Yes
ads.flurry.com	Location	Yes
ads.mopub.com	Advertising ID	No
ads.mopub.com	Device Description	No
ads.mopub.com	Location	No
config.inmobi.com	Advertising ID	No
data.flurry.com	Advertising ID	Yes
data.flurry.com	Android ID	Yes
data.flurry.com	Device Description	Yes
graph.facebook.com	Advertising ID	Yes
sdkm.w.inmobi.com	Advertising ID	Yes
sdktm.w.inmobi.com	Advertising ID	Yes

https://appcensus.mobi/app/com.dtgames.nurseryrhymes/22

Exhibit 8.003

Hide and seek for kids - hidenseek for family!

Dolly Games   **Educational**   **Brain Games**   ★ ★ ★ ★ ★ 561 👤

📖 Everyone   ⭐ Ages 8 & Under

Offers in-app purchases

⚠️ You don't have any devices.

🔖 Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
data.flurry.com	🐛 Advertising ID	Yes
data.flurry.com	🤖 Android ID	Yes
data.flurry.com	🔳 Device Description	Yes
data.flurry.com	📍 Location	Yes

https://www.appcensus.mobi/app/com.artal.game.igravpriatki/43

Exhibit 8.004

Construction Game Build with bricks

Gadget Software Development and Research LLC.
Casual   Creativity

★ ★ ★ ★ ★ 3,371 👤

🄴 Everyone   ✩ Ages 8 & Under

Contains Ads · Offers in-app purchases
⚠ You don't have any devices.

⊞ Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
ads.ubee.in	Advertising ID	Yes
ads.ubee.in	Location	Yes
api.uca.cloud.unity3d.com	Advertising ID	Yes
api.uca.cloud.unity3d.com	Device Description	Yes
auction.unityads.unity3d.com	Advertising ID	Yes
cdp.cloud.unity3d.com	Android ID	Yes
config.uca.cloud.unity3d.com	Android ID	Yes
location.ubee.in	Advertising ID	Yes
location.ubee.in	Location	Yes
location.ubee.in	Router MAC Address	Yes
onesignal.com	Location	Yes
publisher-config.unityads.unity3d.com	Advertising ID	Yes
tracking.inlocomedia.com	Advertising ID	Yes

https://www.appcensus.mobi/app/by.alfasoft.Constructor/116.

Exhibit 8.005

Smart Games for Kids for Free

DEVGAME KIDS   Educational   Education   ★ ★ ★ ★ ★ 4,807 👤

E Everyone   ⭐ Ages 8 & Under

Contains Ads · Offers in-app purchases
⚠ You don't have any devices.

⊞ Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
136.243.140.197	📍 Location	No
136.243.140.197	🐛 Advertising ID	No
api.appodealx.com	🐛 Advertising ID	No
api.appodealx.com	📍 Location	No
connect.tapjoy.com	🐛 Advertising ID	Yes
connect.tapjoy.com	🐛 Android ID	Yes
haggler-inneractive014-us-e-ec2.liftoff.io	🐛 Advertising ID	Yes
haggler-inneractive017-us-e-ec2.liftoff.io	🐛 Advertising ID	Yes
m2m1.inner-active.mobi	🐛 Advertising ID	No
placements.tapjoy.com	🐛 Advertising ID	Yes
placements.tapjoy.com	🐛 Android ID	Yes
publisher-config.unityads.unity3d.com	🐛 Advertising ID	Yes
rpc.tapjoy.com	🐛 Advertising ID	Yes
rpc.tapjoy.com	🐛 Android ID	Yes
rt.applovin.com	🐛 Advertising ID	No
stats.unity3d.com	🐛 Android ID	Yes
ws.tapjoyads.com	🐛 Advertising ID	Yes
ws.tapjoyads.com	🐛 Android ID	Yes

https://www.appcensus.mobi/app/com.devgame.fixiesandkids/25.

Exhibit 8.006

Noogra Nuts - The Squirrel

Bengigi   **Casual**   **Action & Adventure**

★ ★ ★ ★ ☆ 29,636 👤

🎟 Everyone   ⭐ Ages 6-12

Contains Ads · Offers in-app purchases

⚠ You don't have any devices.

🔖 Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
data.flurry.com	🤖 Android ID	Yes
data.flurry.com	🔲 Device Description	Yes
req.startappservice.com	🤖 Advertising ID	Yes
req.startappservice.com	📍 Router MAC Address	Yes
req.startappservice.com	📍 Router SSID	Yes
rt.applovin.com	🤖 Advertising ID	No
sdk-b.apptornado.com	🤖 Advertising ID	No
sdk-b.apptornado.com	🔲 Device Description	No
www.startappexchange.com	🤖 Advertising ID	No
www.startappexchange.com	📍 Router MAC Address	No
www.startappexchange.com	📍 Router SSID	No

https://appcensus.mobi/app/com.bengigi.noogranuts/211.

Exhibit 8.007

Palavra Cantada Oficial: Brincando com Palavras

Sioux   **Educational**   **Music & Video**

★ ★ ★ ★ ☆ 1,630 👤

📇 Everyone   🏅 Ages 8 & Under

Offers in-app purchases
⚠️ You don't have any devices.

🔖 Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
control.kochava.com	Advertising ID	Yes
control.kochava.com	Android ID	Yes
control.kochava.com	Device Description	Yes
control.kochava.com	Router MAC Address	Yes
control.kochava.com	Router SSID	Yes
graph.facebook.com	Advertising ID	Yes

https://www.appcensus.mobi/app/air.brincandopalavras/305040.

Exhibit 9.001
Examples of third parties receiving personal information from apps in the Family section

Third Party	Examples Of Children's Apps Sending Device IDs
AdColony collects data from individuals using its clients' apps such as location, demographic information, unique device IDs. It shares information with clients that use it to send coupons, loyalty points, sales information or other marketing communications. It says it does not knowingly collect personal information from children under 13.http://colonynetworks.com/privacy/.	*Baby Panda's Carnival,* by BabyBus Kids Games, (ages 6-12) *Baby Dream House*, by TabTale, (ages 8 & under) *My First High School Crush – Dress UP & Love Story*, by TabTale, (ages 6-12)
AppLovin describes its business as a comprehensive platform to help app developers grow and monetize games. Its privacy policy states that it may collect "device information across mobile apps and websites over time" and combine it with other information. It claims that it does not knowingly collect personal information from children under 13 except to provide support for internal operations or other exceptions in the COPPA Rule. https://applovin.com/privacy/	*Design It Girl –Fashion Salon*, by TabTale, (ages 6-12) *The Fixies Quest: Kids Riddles*, by DEVGAME KIDS, ((ages 6-8))
AppsFlyer's privacy policy states that customers use its services to collect and analyze data including IP address, IDFA, Android ID, Google advertising ID, and may transfer personal information to third parties. It states that it "does not knowingly collect or process personal data from or with respect to children under the age of 16." https://www.appsflyer.com/privacy-policy/	*Baby Dream House*, by TabTale, (ages 8 & under) *Design It Girl –Fashion Salon*, by TabTale, (ages 6-12) *The Fixies Quest: Kids Riddles*, by DEVGAME KIDS, (ages 6-8)
Chartboost's privacy policy states that it does not knowingly collect personal information about users of child-directed apps. But the help site states that "Apps directed towards children **DO NEED** to opt out of Behavioral Targeting. By not clicking this option, you represent and warrant that your applications and services are **not** directed towards children and that you will **not** provide any information to Chartboost from a user under the age of 13." https://answers.chartboost.com/en-us/articles/200780269; https://answers.chartboost.com/en-us/articles/115001488494.	*Sweet Baby Girl Cleanup 4*, by TutoTOONS, (ages 8 & under) *Thomas & Friends: Race On!* by Animoco Brands, (ages 5 & under) *Baby Dream House*, by TabTale, (ages 8 & under) *Design It Girl –Fashion Salon*, by TabTale, (ages 6-12)

Exhibit 9.002

Third Party	
MoPub is owned by Twitter, and is a defendant in the New Mexico COPPA complaint. Its privacy policy states that if you use an app integrated with MoPub services, it will collect personal information about you, including device identifiers and precise geolocation. It uses this and other information to serve interest-based advertising. It says it does not permit MoPub services to be used to collect information from apps directed to children under 13 for personalized advertising. It does collect information from for serving contextual ad and other purposes. https://www.mopub.com/legal/privacy/	*Design It Girl –Fashion Salon*, by TabTale, (ages 6-12) *The Fixies Quest: Kids Riddles*, by DEVGAME KIDS, (ages 6-8)
Tapjoy's privacy statement states that it uses information it collects to "show you ads customized to what our system infers to be your interests, preferences, and locations, based on the information associated with your mobile device's advertising identifier; this is referred to as behavioral or interest-based advertising." It states that "If you are under the locally applicable minimum age of consent to data use, please do not register for or use any Tapjoy service or send us any information about yourself. (In the US, your minimum age is 13). https://www.tapjoy.com/legal/#privacy-policy	*Thomas & Friends: Race On!* by Animoca Brands, (ages 5 & under) *The Fixies Quest: Kids Riddles*, by DEVGAME KIDS, (ages 6-8)
Vungle is an ad network providing a technology platform for clients that want to advertise or monetize their apps or games. Its privacy policy discloses that it tracks users and combines their personal data with information from other sources. "This may include, for example, mobile device ID, demographic or internet data, and content viewed or actions taken on an app to help make the ad served to you more relevant." It further states that is clients are responsible for ensuring their mobile apps comply with COPPA. It enables a flag so that the only personal information used is unique digital identifiers to support Vungle's internal operations. https://vungle.com/privacy/.	*Hello Kitty All Games for kids*, by TapTapTales, (ages 8 & under) *My First High School Crush – Dress UP & Love Story*, by TabTale, (ages 6-12)
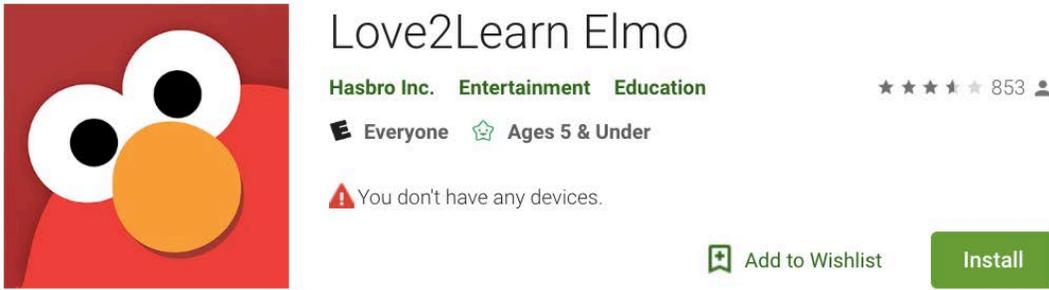
Love2Learn Elmo

Hasbro Inc.   **Entertainment**   **Education**

★ ★ ⯪ ★   853 👤

E **Everyone**   🌟 **Ages 5 & Under**

⚠ You don't have any devices.

📑 Add to Wishlist   **Install**

PLEASE NOTE: This app is intended for use with the Love2Learn Elmo toy. Product sold separately at playskool.com/elmo.

Select your child's name* and interests in the Love2Learn Elmo app to create a personalized play experience for your child.

Domain	Info Shared	🔒 Encrypted?
analytics.localytics.com	Android ID	Yes
analytics.localytics.com	Serial Number	Yes
stats.unity3d.com	IMEI	No

Exhibit 10.002
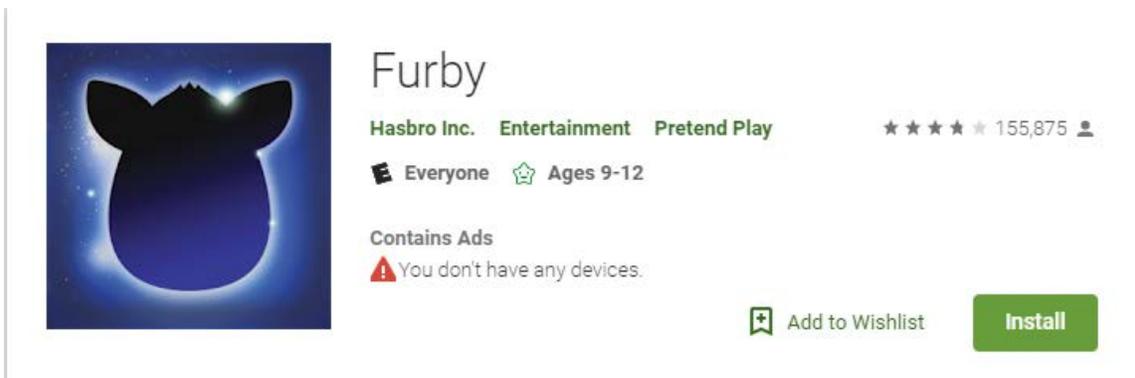
Furby

Hasbro Inc.   Entertainment   Pretend Play   ★ ★ ★ ★ ★ 155,875 👤

E Everyone   ☆ Ages 9-12

Contains Ads
⚠ You don't have any devices.

➕ Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
analytics.localytics.com	🤖 Android ID	**No**
analytics.localytics.com	📱 Serial Number	**No**
analytics.localytics.com	🔍 IMEI	**No**

a mind of its own™

Furby

AGES 6+

Note that the box says the Toy is for ages 6+. Hasbro apps for use with Furby BOOM! and Furbacca (a Star Wars character) also sent IMEI to Unity unencrypted.

Exhibit 10.003

Olaf's Adventures

Disney Publishing Worldwide   **Entertainment**
Action & Adventure

★ ★ ★ ★ ☆
56,653 👤

▣ Everyone   ☆ Ages 8 & Under

Contains Ads · Offers in-app purchases
⚠ You don't have any devices.

⊞ Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
stats.unity3d.com	Wi-Fi MAC Address	No

Miles From Tomorrowland

Disney Publishing Worldwide   **Adventure**
Action & Adventure

★ ★ ★ ★ ☆
27,419 👤

▣ Everyone   ☆ Ages 8 & Under

Contains Ads · Offers in-app purchases
⚠ You don't have any devices.

⊞ Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
api.disney.com	Advertising ID	Yes
stats.unity3d.com	Android ID	No

Exhibit 10.004

Noogra Nuts - The Squirrel

Bengigi   Casual   Action & Adventure

★ ★ ★ ★ ☆ 29,636 👤

🎫 Everyone   ⭐ Ages 6-12

Contains Ads · Offers in-app purchases

⚠️ You don't have any devices.

🔖 Add to Wishlist   **Install**

Domain	Info Shared	🔒 Encrypted?
data.flurry.com	Android ID	Yes
data.flurry.com	Device Description	Yes
req.startappservice.com	Advertising ID	Yes
req.startappservice.com	Router MAC Address	Yes
req.startappservice.com	Router SSID	Yes
rt.applovin.com	Advertising ID	No
sdk-b.apptornado.com	Advertising ID	No
sdk-b.apptornado.com	Device Description	No
www.startappexchange.com	Advertising ID	No
www.startappexchange.com	Router MAC Address	No
www.startappexchange.com	Router SSID	No

Exhibit 10.005

The Fixies Quest: Kids Riddles

DEVGAME KIDS   **Puzzle**   **Brain Games**

★ ★ ★ ★ ⯨ 16,527 👤

🅴 Everyone   ⭐ Ages 6-8

Contains Ads · Offers in-app purchases
⚠ You don't have any devices.

🔖 Add to Wishlist   **Install**

52.7.169.104	🦟	Advertising ID	No
52.73.56.94	🦟	Advertising ID	No
54.175.146.212	🦟	Advertising ID	No
a.applovin.com	🦟	Advertising ID	No
a.rfihub.com	🦟	Advertising ID	No
adexp.liftoff.io	🦟	Advertising ID	No
ads-east-colo.adsymptotic.com	🦟	Advertising ID	No
ads-west-colo.adsymptotic.com	🦟	Advertising ID	No
ads.celtra.com	🦟	Advertising ID	No
ads.mopub.com	🦟	Advertising ID	No
adserver.unityads.unity3d.com	🦟	Advertising ID	Yes
analytics.mopub.com	🦟	Advertising ID	No
analytics.mopub.com	👆	Device Description	No
analytics.mopub.com	📍	Location	No
analytics.mopub.com	👆	Device Description	Yes
analytics.mopub.com	📍	Location	Yes
api.appodealx.com	🦟	Advertising ID	Yes
api.appodealx.com	📍	Location	Yes
app.appsflyer.com	🦟	Advertising ID	Yes
auction.unityads.unity3d.com	🦟	Advertising ID	Yes
c.adsymptotic.com	🦟	Advertising ID	No
connect.tapjoy.com	🦟	Advertising ID	Yes
connect.tapjoy.com	🤖	Android ID	Yes
content.tapjoy.com	🦟	Advertising ID	Yes
content.tapjoy.com	🤖	Android ID	Yes
d.applovin.com	🦟	Advertising ID	No
fc-eu.adsymptotic.com	🦟	Advertising ID	No
gce-sc.bidswitch.net	🦟	Advertising ID	No

Exhibit 10.006

haggler-inneractive019-us-e-ec2.liftoff.io		Advertising ID	Yes
haggler-inneractive020-us-e-ec2.liftoff.io		Advertising ID	Yes
haggler-inneractive031-us-e-ec2.liftoff.io		Advertising ID	Yes
haggler-mopub577-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub582-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub593-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub594-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub599-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub601-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub603-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub606-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub617-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub618-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub619-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub621-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub623-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub625-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub635-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub636-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub643-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub650-us-e-ec2.liftoff.io		Advertising ID	No

Exhibit 10.007

haggler-mopub655-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub657-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub658-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub666-us-e-ec2.liftoff.io		Advertising ID	No
haggler-mopub672-us-e-ec2.liftoff.io		Advertising ID	No
httpkafka.unityads.unity3d.com		Advertising ID	Yes
m2m1.inner-active.mobi		Advertising ID	No
mpx.mopub.com		Advertising ID	No
mpx.mopub.com		Device Description	No
mpx.mopub.com		Location	No
placements.tapjoy.com		Advertising ID	Yes
placements.tapjoy.com		Android ID	Yes
rpc.tapjoy.com		Advertising ID	Yes
rpc.tapjoy.com		Android ID	Yes
rt.applovin.com		Advertising ID	No
stats.unity3d.com		Android ID	Yes
track.56txs4.com		Advertising ID	No
ws.tapjoyads.com		Advertising ID	Yes
ws.tapjoyads.com		Android ID	Yes

Exhibit 11.001
Reviews complaining about excessive in-app purchases

Caillou Check Up - Doctor

Budge Studios   **Educational**   **Education**   ★ ★ ★ ☆ ★ 26,749 👤

E Everyone   ⭐ Ages 8 & Under

Contains Ads · Offers in-app purchases
⚠ You don't have any devices.

                                                    ⊞ Add to Wishlist   **Install**

A Google user   👍   ⋮
★ ★ ☆ ☆ ☆ September 28, 2018   10

I bought the full version for my children & there are still too many ads that pop up. It is
frustrating. I understand that with the free version but not after I paid for it.

Haley Mistkowski   👍   ⋮
★ ★ ★ ☆ ☆ February 13, 2018   118

The little ones love it but it did this update and it keeps asking me to repurchase the full
version which I did but it does not seem to be working. If that could be fix I would rate it a full
five star rating.

Crayola Create and Play

Crayola LLC   **Educational**   **Creativity**   ★ ★ ★ ☆ ★ 138 👤

E Everyone   ⭐ Ages 5 & Under

Offers in-app purchases
⚠ You don't have any devices.

                                                    ⊞ Add to Wishlist   **Install**

Unique Skybird   👍   ⋮
★ ☆ ☆ ☆ ☆ December 1, 2018   3

So it's free to download, but you have to pay to play the game

Alexandra Hamici   👍   ⋮
★ ★ ★ ☆ ☆ November 29, 2018   18

I think it's not fair to pay because there are parents who can't or do not want (to) pay so it's
better to make the whole game free for everyone

Exhibit 11.002

Baby Dragons: Ever After High™

Editors' Choice

Mattel   Casual   Pretend Play

★★★★☆ 94,387 👤

E Everyone   ⭐ Ages 6-12

Contains Ads · Offers in-app purchases

⚠ You don't have any devices.

Maegan Smith

★☆☆☆☆ November 27, 2018

👍 15

It costs real money to do anything, even just looking at items took away my gems. I didn't even confirm that I bought them, just looking at the items spent my gems. I you have kids who play this, beware it will start costing a lot before you know it. Luckily the gems I had were starter gems, but after they are gone if you buy more they will be spent very easily without you even being able to notice. Only when you'll want to get something will you see it had cost your gems just to browse.

Dr. Panda Town

Editors' Choice

Dr. Panda   Education   Pretend Play

★★★★☆ 42,511 👤

E Everyone   ⭐ Ages 8 & Under

Offers in-app purchases

⚠ You don't have any devices.

🔖 Add to Wishlist   **Install**

Emma Ding

★☆☆☆☆ October 15, 2018

👍 321

Why do you make a CHILDRENS APP if you have to pay for the whole d%$""$_% thing. honestly how stupid can people be. Thumbs up if you agree.

Arli Chan

★☆☆☆☆ November 10, 2018

👍 24

They lock EVERYTHING except the worst places to go. And you have to buy it. I would expect at LEAST 2 COOL places unlocked!!! >:(

Exhibit 12.001
Examples of inappropriate content for children's apps

Dentist Games for K ids, by App Quiz, (ages 8 & under). In this game, children are directed to give child patients shots in their pimples in the back of the child's throat.

Marbel Toilet Training, by Educa Studio, (ages 5 & under). Players of this game have to take small children to the bathroom. If they don't get there fast enough, the child has an accident and the player has to take a mop and clean up the mess.

Alpi - Foot Doctor for Kids, by Alpi, (ages 5 & under). Child are told to give patients shots in sores on their feet.

Doctor X & the Urban Heroes by TabTale (ages 8 & under). Children are instructed to cut clothes off of a patient.

Exhibit 12.002

Pregnant Mama Emergency Doctor, by BabyGamesStudio (ages 6-12). The player is told to pour baby oil on a pregnant mother to induce labor and then pump blood into her.

Kid Doctor Clinic by ComError, (ages 6-12). In this game, the baby cries until the child gives him a shot.