On Internet Cookies

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Introduction

"I do not know what they are, I just accept them." That is what my friend jokingly said to me when I told her the subject of my research was on internet cookies. I thought I knew what they were, but I barely scratched the surface. My understanding of cookies was that they record your internet activities on the devices you use for access. Though this is the basic idea of cookies, I did not realize that there where many different types and classifications. Using Google as a benchmark, my research on cookies ultimately seeks to understand their role in how personal data is collected and how people may be more informed to safeguard themselves against any security risk. Although I do not believe cookies to be 'bad', the way in which information is garnered through monitoring cookies could lead to more nefarious and unwanted activities by third parties. Google defines cookies this way,

> *Cookies are small pieces of text sent to your browser by a website you visit. They help that website remember information about your visit, which can both make it easier to visit the site again and make the site more useful to you.*

Given the ubiquity of internet accessible devices such as smartphones, tables, computers, and other like devices, I contend that certain cookies are ultimately a trojan horse for advertising players to manipulate instead of enhance user experiences across the internet.

Types of Cookies

Most if not all frequent internet users in the United States are quite familiar with having to either accept or reject cookies upon first visiting a website.

We use cookies to ensure that we give you the best experience on our website. This includes cookies from third party social media websites and advertising cookies that may analyze your use of this site. Click "Got it" to agree or "Cookie Settings" to opt out. (bluehost.com)

This message seems benign enough. No one is being forced to access any particular website, however clicking agree or accept may be required in many cases to gain access to any website. Just like 'terms and conditions', most of us just accept cookies in order to continue with our internet browsing. The above statement is taken from the cookie statement that pops up on the screen when accessing bluehost.com, which happens to be one of the top used webhosting companies in the world. Although it is a popular site, I reference it out of frustration. I have been a bluehost.com customer since 2012, and it still gives me this popup message 11 years later.

So, what really are cookies? Google gives a little more depth beyond labeling them as small pieces of text, to classifying the purposes of said texts. There are many ways cookies are classified but they all can fall into similar categories. Functionality, security, analytics, advertising, and personalization are the five I will briefly inspect in this paper.

Functionality

Cookies in this category may just be the most necessary of them all. They keep track of the settings you input so you would not have to keep typing or selecting the same options every

time a page reloads. They can also be referred to as session cookies. Your name, preferences such as light/dark background, items in a shopping cart, or language are all examples of functional cookies. I would imagine the user experience would be enjoyable if these types of cookies are not employed when accessing a website. I would agree with any statement resembling "…to give you the best experience on our website…" as a prompt for me to accept these types of cookies before proceeding on the particular website.

Security

Cookies in this category are used to authenticate users and help block spam, fraud and abuse. They continually work to ensure actual human users and not bots or other malicious programs are making request on webpages. Coupled with functionality types, cookies seem to be pretty necessary and helpful.

Analytics

Analytic cookies are used to collect data and as this category suggests, to analyze how you interact with the website. These cookies in essence build a profile on you based on how you surf the web. I can easily understand why the first two categories exist, but I begin to pause when considering why analytic cookies exist. Why does a website need to build analytics on my usage with it?

Advertising

This category is the answer to my previous rhetorical question. We live in a capitalist country, of course the computer is trying to sell me something! Advertising cookies use the data

supplied by the other cookies aforementioned to target you for advertising. Your location upon accessing a particular webpage, information provided by the user such as age, sex, interests, and habitual internet usage all work to provide the user with 'relevant ads'.

> *Internet users can be tracked for a variety of purposes, often with economic motives as the driving force behind it, e.g. advertising, user experience or data auctioning. One way of employing online tracking is through embedded advertisements, which included tracking scripts to learn more about the user's interest and personalize the advertisements based on this information.* (Franken et al.)

Personalization

It should go without mention that personalization cookies may just be the apex of this list. These cookies influence what pops up in search results, what type of ads are displayed to you, and other content will be curated for a user based on their internet usage. 1000 different users of the same site could see 1000 variations of the site's home page, especially if the site is similar to Google's YouTube.

The case can be made from sites that use cookies to '… provide the best experience' or other such claims for its users given the nature of the different types of cookies. The above list is not definitive but is dense enough to show how misleading the claim might be that cookies are for the user's best experience. Cookies can more simply be divided binarily as either first or third party.

First-party vs Third-Party Cookies

"First-party cookies are cookies placed on a visitor's hard drive by the initial website a person visits." (Grysiuk, 2015) These could be functional cookies, or session cookies which are used only for a user's visit. They are created only by the visited domain and are harmless. They do only what they appear to do on the surface and nothing else. They are only effective when accessing the particular site, or group of sites under that domain. First-party cookies track your selections on the website for practical or functional use while the session is active (while you are engaged on the website) but do not follow you outside of that particular website.

Third-party cookies are a different story.

> *Third-party cookies are cookies placed on a visitor's hard drive after clicking on an advertisement or other content that is hosted by the initial website that person visited. It is important to note that third-party cookies are not always covered in the privacy policies that govern the original website.* (Grysiuk, 2015)

These third-party cookies concern themselves with user activity across the internet. The bluehost.com example used earlier can now be better understood as a clear warning to visitors, that Bluehost will track you for advertising purposes and analyze your movements within and outside their domain. After understanding the basics of cookies, we clearly see the 'best experience' may not mean best in favor of the user, but best in favor of third-party players looking to capitalize on the analytics generated from the user's internet usage.

We are in the digital age, where it is common to own and daily use multiple internet accessible devices. Smartphones, tablets, desktops and laptop computers and even televisions and infotainment systems in vehicles are susceptible to third-party cookies. "Moreover, websites

may embed functionality of a social platform through which users can engage with each other."
(Franken et al., n.d.) Every time someone likes, reposts or shares a social media post, cookies are
stored, and requests are triggered when moves are made across the net. Is it any wonder why
social media is nearly a trillion-dollar industry? I make a point to mention social media because
it accounts for the majority of internet traffic, and if the marketers have been successful, people
are busy online researching, buying, or discussing based on their interactions on their social
media platforms. This would continue the cycle of cookies leading us to other sites, to other ads,
to other profiles… Are we operating under the illusion of choice when we select a Netflix show,
or stream a song, or follow a profile? A cursory glance at the complete list of Google's cookie
list shows each cookie along with their purpose, the particular product (like AdSense, Search or
YouTube) and the cookie's lifespan. Advertising cookies could nearly all be counted in terms of
months while all other cookie lifespans could be in seconds or minutes.

Google and the End of Third-party Cookies: A Consumer Protection?

Google announced in 2021 its intentions on disabling third-party cookies but turned
around and changed its mind a few months later. There was too much backlash from advertisers
and marketers claiming among other things that it would put them out of business and give an
unfair advantage to Google. According to Schechner in his New York Times article written in
January, Google/Chrome had over 60% of global web browser market share. One could see how
making such a change would move the needle for the global industry.

In his second article written just six months later, he reports that Google would delay in
order to give publishers, advertisers and regulators more time to become comfortable with the
new technologies Google was developing to 'enable targeted ads' after third-party cookies are

phased out. It seems to me that the idea of ending third-party cookies is great, but not if you change the name but still maintain the same practices. Google has delayed their plans several times, and now are slated to end support for third-party cookies late 2024.

Conclusion

Cookies are not your friend, even if they suggest a few based on others you have followed. It is important to read the disclaimer concerning them when accessing sites across the web and be more informed about what data is collected and for what purpose. All sites store cookies on our devices, but we have some control over most of them if we would take the time to read, and understand what we accept or not. Third-party cookies especially are ultimately a trojan horse for advertising players to manipulate instead of enhance user experiences across the internet.

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