What is Cookie, it's Phenomenon and it's Private Residence Overview

Md. Abdullah Yusuf Imam[a*], Mr. Prodip Kumar Biswas[b]

[a]Assistant Maintenance Engineer, Department Of ICT, National University, Gazipur-1704, Bangladesh

[b]Sub-Technical Officer, Department Of ICT, National University, Gazipur-1704, Bangladesh

[a]Email: fuad_cuet_cse@yahoo.com

[b]Email: prodipcse01@gmail.com

Abstract

Cookies by the language of Computer Science are used to hold data, specific to a particular remote client machine and the website which is visited and can be used either by the website or by the the remote client computer [3]. This helps the server to deliver a page related to a particular user, or the page itself can hold some scripts which is concerned of the data in the cookie and so is able to carry information of one user [2]. General users treated cookies as treaded of security of machine as the content of Cookies cannot be seen, but it has good criteria for the users.

Keywords: Cookie; Cookies; Firefox; Mozilla; Website; Websites.

1. How cookie works?

A cookie is a bit of data stored on remote computer by a website when one has visited any web site [1]. Cookie is containing a pairs of (key, data) values, example (first name, John), (last name, Smith). Once the cookie has been accessed by the code on the web server or client computer machine, the data can be invented and able to customize the web page correctly [4,5], when there is a large amount of data is to be maintained, then a cookie can be used to identify a user first, and then the next related information of that user is take into account. For example when the first time a user visits a website he will use a username to login, which is stored in the cookie and then when he provides related data about 'user' name such as password, name, address, preferred font size, page layout, etc. - this information would all be stored on cookies according to the 'username' as a key.

----

* Corresponding author.

When the site is revisited by the user itself, the server will read the cookie to find the username, and then invent all the user's information from the cookies without having to be re-entered at all [6,7].

2. How to see what websites names are stored by cookies in browser

The way of seeing what websites names stored in cookies in Mozilla Firefox (consider Mozilla is represented as the standard of all browser), need to do the followings, To begin,

✓   Open Mozilla Firefox and then click **"Open Menu"** button on the top-right corner of the window. And then go to Options.
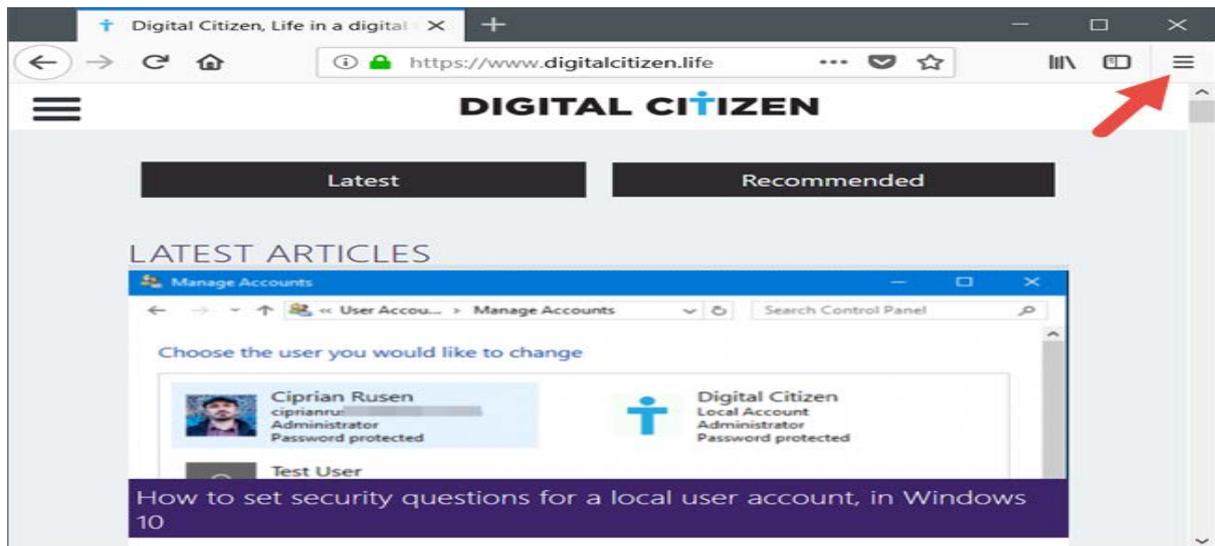

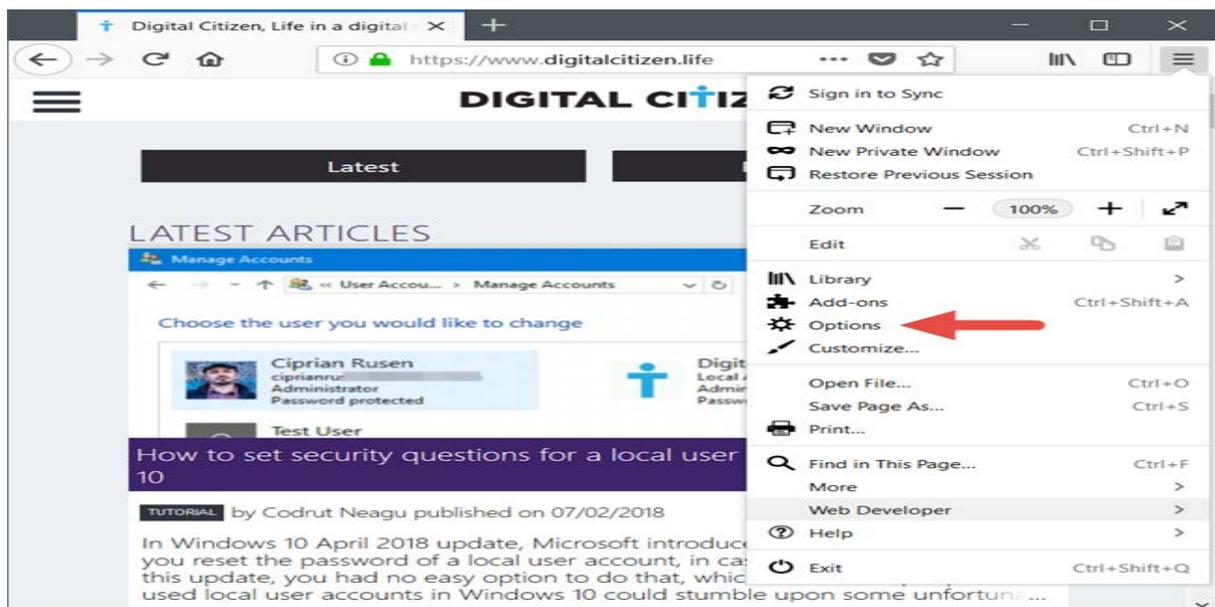
Figure 1: Finding cookies result

Figure 2: Finding cookies result

- ✓ The Options tab opens.
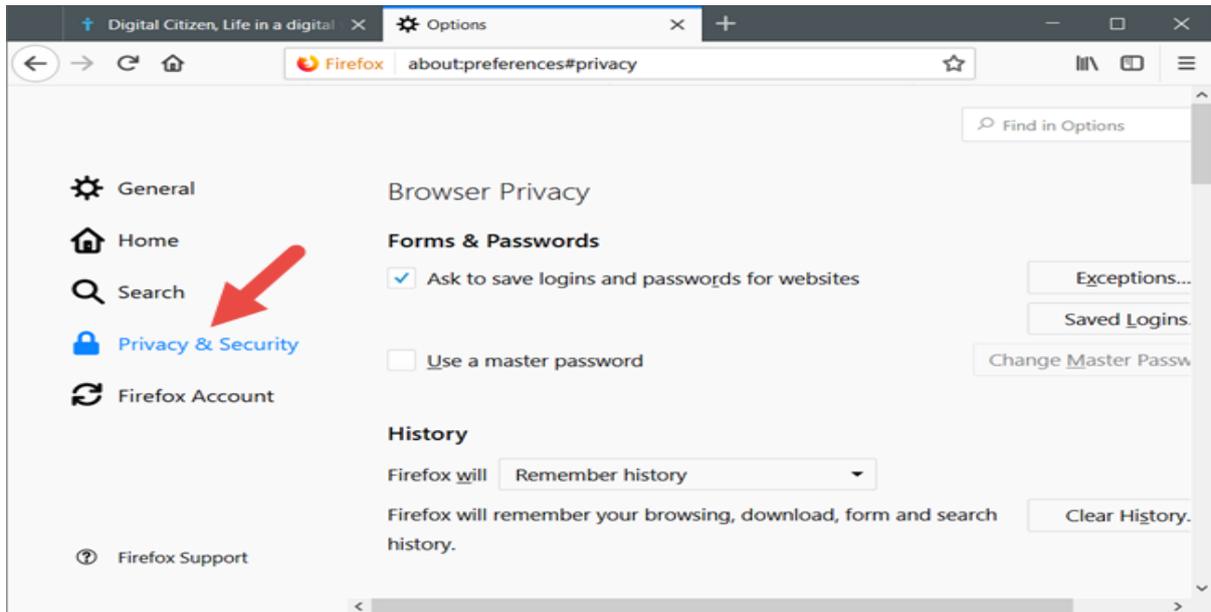- ✓ Click "Privacy & Security" on the left of the window.

Figure 3: Finding cookies result

On the right side of the window,

- ✓ Scroll down & find the section called "Cookies and Site Data."
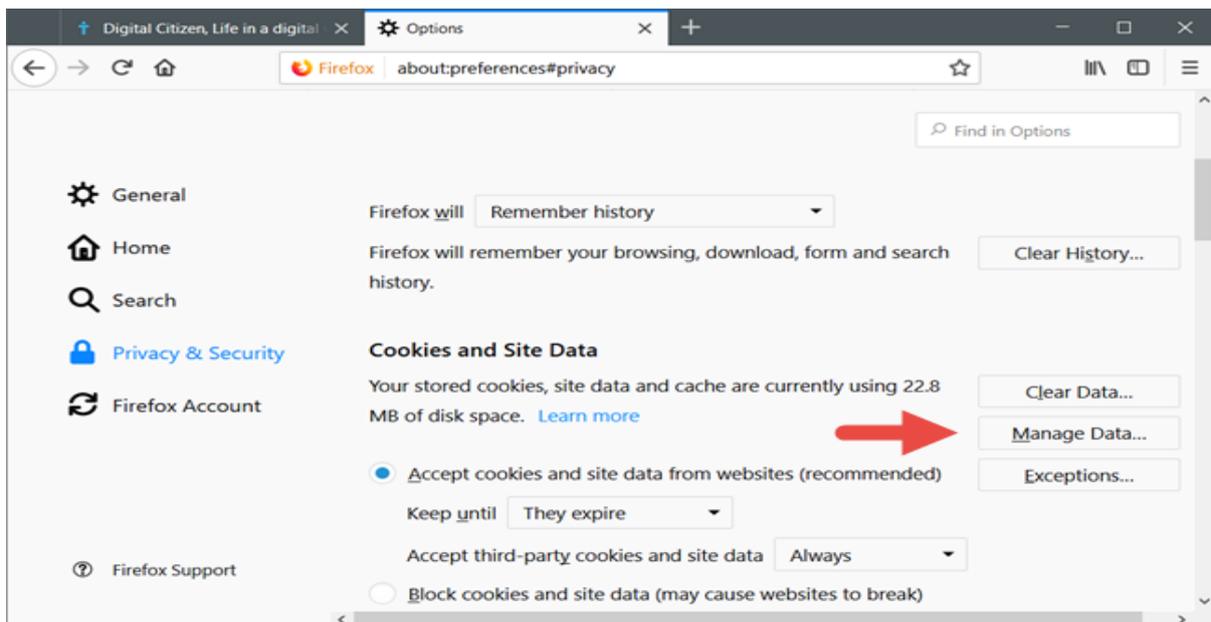- ✓ In it, tap the "Manage Data…" button.

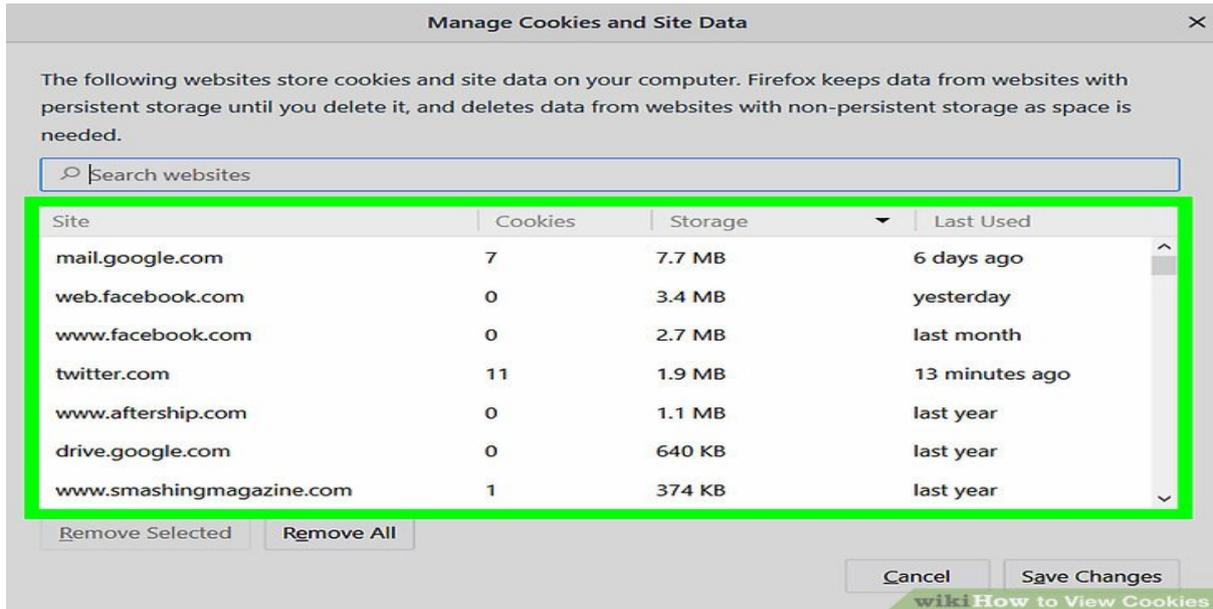
Figure 4: Finding cookies result

Figure 5: Finding cookies result

And that's all. Now one can able to see which website is visited by user and when it is.

3. How to find cookies

Now we see how find Cookies in Firefox.

- Need to click the Windows Start button. The Start menu will open.
- At the bottom of the Start menu, type or copy paste the following:

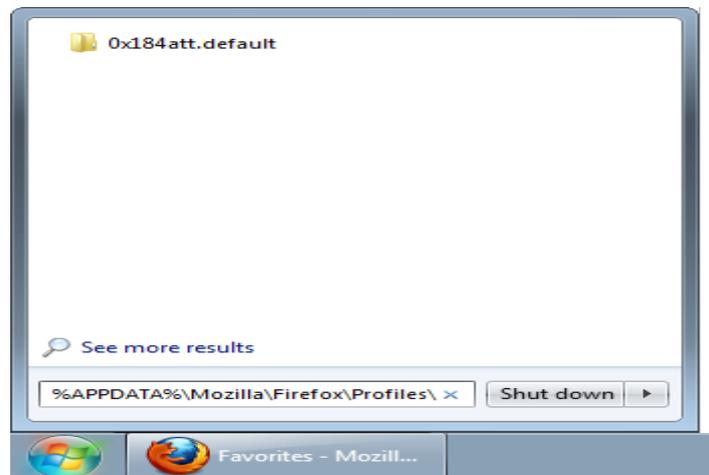**%APPDATA%\Mozilla\Firefox\Profiles**

Figure 6: Finding cookies contents

✓ Without pressing Enter, a file will be seen look like what is paste. Click it. A list of profiles will appear containing the list of all cookies.

4. Cookies and security

Simple question: Case study

Cookies do not threat to privacy. If one worries that the information he provides to a web server will not be treated as private then one should question himself whether actually needs to provide that information to the website.

5. Limitations

Some business websites include advertising material which is served from a third-party site, and it is possible for such adverts to store a cookie, containing information exists to it [24], such information might include site name, products being viewed, pages visited, etc. When the user later visits another site containing a similar adverts from the same third-party site, the advertisers will be able to read the cookie and use it to determine some information about the user's browsing history [9,10]. But **Simple Question: in Section** [5] **also arise here.**

6. Residence of cookies

Case study

Cookies work jointly with the help of client machine and web server after one's first visit a website and revisited later [11]. Cookies are, nothing than small text files that are placed on ones computer / computer's browser when he visits several websites [13]. It takes space of computer's hard disk. Residence of cookies are Computer's storage.

7. Advantage in private browsing

When private browsing, one may have logged into Facebook, Gmail, Youtube or some other website, but when he closes all the private browsing tabs & windows, cookies are deleted, and he is automatically signed out [14,15]. Someone else later tries to visit the same websites by the same computer in a new general browsing window, then he is not automatically logged in with that account [23]. He needs to provide logging information again. Cookies for non-private browsing remain same as they are previous [16].

8. Phenomenon of cookies

Besides of private browsing, Cookies have some little advantages [17,18,19].

❖ Cannot contain viruses.
❖ Cannot access or read one's hard drive.

❖ Cannot access personal information (such as not automatically signs in users account & not to see contents of email address or any website)

❖ Cookies list of all websites names which one has been visited.

❖ Cookies allow users not to input same data in different web sites again and again.

❖ Cookies allow user to logged in website for ever saving the password [22].

9. Conclusions

Users can configure their browsers for saving or un saving the cookies [20,21]. While this is of little advantage to the user, Cookies have no work outside of listed phenomenon. One not needs know any more things about cookies in general case because contents of cookies are always encrypted.

References

[1] "Where cookie comes from :: DominoPower". dominopower.com. Retrieved 19 October 2017.

[2] Raymond, Eric (ed.). "magic cookie". The Jargon File (version 4.4.7). Retrieved 8 September 2017.

[3] Schwartz, John (2001-09-04). "Giving Web a Memory Cost Its Users Privacy". The New York Times.

[4] Kesan, Jey; and Shah, Rajiv ; Deconstructing Code, SSRN.com, chapter II.B (Netscape's cookies), Yale Journal of Law and Technology, 6, 277–389

[5] Kristol, David; HTTP Cookies: Standards, privacy, and politics, ACM Transactions on Internet Technology, 1(2), 151–198, 2001 doi:10.1145/502152.502153 (an expanded version is freely available at arXiv:cs/0105018v1 [cs.SE])

[6] "Press Release: Netscape Communications Offers New Network Navigator Free On The Internet". Web.archive.org. Archived from the original on 2006-12-07. Retrieved 2010-05-22.

[7] "Usenet Post by Marc Andreessen: Here it is, world!". Groups.google.com. 1994-10-13. Retrieved 2010-05-22.

[8] Hardmeier, Sandi (2005-08-25). "The history of Internet Explorer". Microsoft. Retrieved 2009-01-04.

[9] "'SameSite' cookie attribute, Chrome Platform tatus". Chromestatus.com. Retrieved 2016-04-23.

[10] Goodwin, Mark; West, Mike. "Same-site Cookies". tools.ietf.org. Retrieved 2016-04-23.

[11] Goodwin, M.; West. "Same-Site Cookies draft-ietf-httpbis-cookie-same-site-00". tools.ietf.org. Retrieved 2016-07-28.

[12] "Third party domains". WebCookies.org.

[13] "Number of cookies". WebCookies.org.

[14] "Learn more about the Public Suffix List". Publicsuffix.org. Retrieved 28 July 2016.

[15] Mayer, Jonathan (19 August 2011). "Tracking the Trackers: Microsoft Advertising". The Center for Internet and Society. Retrieved 28 September 2011.

[16] Vijayan, Jaikumar. "Microsoft disables 'supercookies' used on MSN.com visitors". Retrieved 23 November 2014.

[17] Peng, Weihong; Cisna, Jennifer (2000). "HTTP Cookies, A Promising Technology". Proquest. Online Information Review. Retrieved 29 March 2013.

[18] Jim Manico quoting Daniel Stenberg, Real world cookie length limits

[19] Rainie, Lee (2012). Networked: The New Social Operating System. p. 237

[20] IETF HTTP State Management Mechanism, Apr, 2011 Obsoletes RFC 2965

[21] "Persistent client state HTTP cookies: Preliminary specification". Netscape. c. 1999. Archived from the original on 2007-08-05.

[22] RFC 2965, HTTP State Management Mechanism (IETF)

[23] "Cookie Property". MSDN. Microsoft. Retrieved 2009-01-04.

[24] Shannon, Ross (2007-02-26). "Cookies, Set and retrieve information about your readers". HTMLSource. Retrieved 2009-01-04.