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FACEBOOK, INC.

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

MATTHEW CAMPBELL and MICHAEL HURLEY,

Plaintiffs,

v.

FACEBOOK, INC.,

Defendant.

Case No. C 13-05996 PJH (SK)

DECLARATION OF NEAL POOLE IN SUPPORT OF DEFENDANT FACEBOOK, INC.'S OPPOSITION TO PLAINTIFFS' MOTION TO COMPEL PRODUCTION OF SOURCE CODE

I, Neal Poole, declare as follows:

1. I am an employee of Defendant Facebook, Inc. ("Facebook"). My job title is Security Engineer. My duties include investigating potential security risks that impact Facebook and its infrastructure, assessing our overall architecture and the architecture of individual products from a security perspective, and performing various security assessments on existing and newly developed products. I submit this Declaration in support of Facebook's Opposition to Plaintiffs' Motion to Compel Production of Source Code. Unless otherwise indicated, I have personal knowledge of the facts stated below and could competently testify to them in a court of law.

2. I provide this Declaration to explain certain facts regarding Facebook's "Graph API" feature as it relates to "global share objects" (also known as "EntGlobalShares"). I understand that Plaintiffs in this case are requesting that Facebook produce additional source code. In support of this request, Plaintiffs assert as follows:

> Facebook's sharing of URLs in Private Messages with third parties appears to be ongoing. Shortly after Plaintiffs amended their complaint, a security researcher revealed one manifestation of this ongoing practice. As recently disclosed in a blog post by the researcher . . . Facebook makes the specific URLs shared in Private Messages freely available to any developer with access to the Facebook API. . . . Facebook never disclosed this practice through discovery, and analysis of Facebook's up-to-date source code is necessary to understand how this functionality operates, the scope of Facebook's ongoing sharing of users' Private Message content with third parties, and the appropriate injunctive relief associated with this practice.

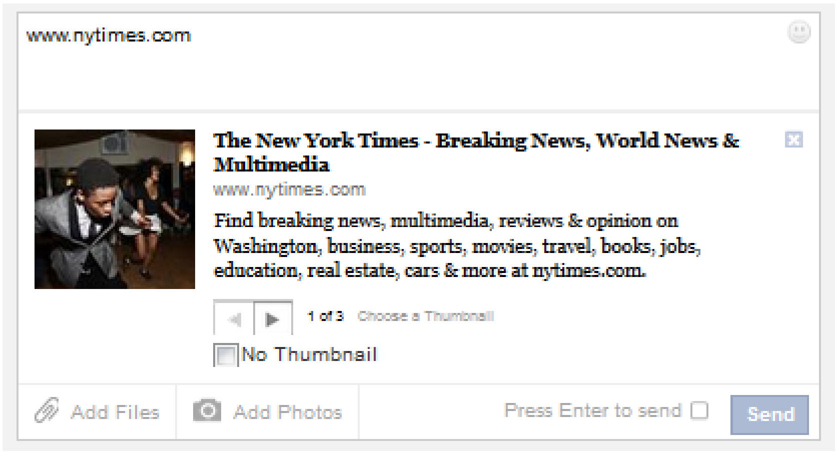
(Mot. at 7-8 (footnotes and emphases omitted).)

3. As explained below, Plaintiffs' misapprehend the nature of Facebook's tools and the practice discussed by the blog post they reference.

4. The blog post Plaintiffs reference is titled "Why you shouldn't share links on Facebook," *Quartz*, June 29, 2016, http://qz.com/715019/why-you-shouldnt-share-links-on-facebook/ ("*Quartz* post"). The *Quartz* post refers to Facebook's "Crawler" and "Sharing Debugger" tools, both of which are explained on Facebook's publicly available webpages. Regarding the Facebook "Crawler," Facebook's website explains that "[t]he first time someone shares a link, the Facebook crawler will scrape the HTML at that URL to gather, cache and display info about the content on Facebook like a title, description, and thumbnail image." *See* The Facebook Crawler, *available at*

https://developers.facebook.com/docs/sharing/webmasters/crawler.

5. Through this process, the Crawler obtains information from a third-party website to construct the "URL preview" that may be created when someone using Facebook types a URL into a Facebook post, message, or otherwise. The following is an example: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www.nytimes.com
Find breaking news, multimedia, reviews & opinion on Washington, business, sports, movies, travel, books, jobs, education, real estate, cars & more at nytimes.com.

6. The data structure on Facebook's system that stores this URL preview is the "global share object" or "EntGlobalShare." By storing this information in an EntGlobalShare, Facebook can avoid "scraping" or "crawling" the website every time Facebook needs to generate a new preview, thereby reducing traffic and allowing for faster and more efficient and effective preview generation. The EntGlobalShare also allows Facebook to generate previews even when third-party websites have errors or down time.

7. It is important to note that an EntGlobalShare is created for a URL (1) only the first time the URL is "crawled," and (2) *before* the URL preview is actually shared by someone using Facebook (i.e., before they hit "enter" or "send" in a post, message, or otherwise). The EntGlobalShare is the "canonical" storage of the URL preview, and does not represent a *specific instance* of a URL preview being shared on Facebook (through a message or otherwise). In this regard, it is distinct from a "share object" or "EntShare," which represents an instance of a *specific* share. To illustrate the point, if I were the first person on Facebook to enter www.nytimes.com, an EntGlobalShare would be created to store the above URL preview. But an EntGlobalShare would not be created when other people shared the same preview in the future. On the other hand, an EntShare *would be created* each time someone successfully shared the URL preview.

8. The actual URLs (e.g., www.nytimes.com) are of course public, and can be accessed by anyone typing them into a web browser—in the example above, www.nytimes.com. That *same public URL information*—www.nytimes.com, here—is displayed if a website developer uses a specific Facebook developer tool (an application programming interface or "API"[1]) to "call" that URL from Facebook. Facebook internally assigns each EntGlobalShare an object ID, and in order to call a specific URL using the API, the requester must know the object ID assigned to that EntGlobalShare. If the requester calls for that object ID, the result returned by Facebook's API is the URL itself (www.nytimes.com). The returned result does *not* include any information that is not contained in the URL.

9. To take another example, if someone using Facebook typed www.politico.com into a post, message, or comment, and an EntGlobalShare was created, and someone later "called"—through Facebook's API—that URL using the object ID for that EntGlobalShare, the API would return "www.politico.com." If the requester did not know (or could not guess) the object ID, she could not "call" that object ID from the API and learn the URL.

10. Furthermore, the API does not indicate whether the URL was shared in a message, or was simply typed into a post or comment or shared in some other way on Facebook, nor does it identify the person whose typing of the URL led to the creation of the EntGlobalShare. Again, the only thing that is returned through the API call is the URL itself.

11. This basic functionality has been available for many years, and it has been reflected in Facebook's source code for many years (including in 2012). The *Quartz* post merely discusses this functionality. It does not contend, nor do Plaintiffs, that Facebook's API can be used to identify *specific instances* of a URL being shared—in a message or otherwise. It is thus extremely misleading for Plaintiffs to claim that this feature concerns "sharing of URLs in Private Messages with third parties." It does not.

[1] APIs can be used to integrate information from Facebook into other applications. For example, a mobile app may use the Facebook API to request information about users' friend lists so that its app can notify users when their Facebook friends are also logged into that app.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct and that this declaration was executed on August 18, 2016 in London, England.

/s/ Neal Poole
Neal Poole

ATTORNEY ATTESTATION

I, Joshua A. Jessen, attest that concurrence in the filing of this Declaration of Neal Poole has been obtained from the signatory. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed this 19th day of August 2016, in Irvine, California.

Dated: August 19, 2016

/s/ Joshua A. Jessen
Joshua A. Jessen