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Should Facebook Monitor Chats to Help Snag Child Predators?

By **Josh Wolford**   August 23, 2012 · 💬 **0 Comments**   WN SUBSCRIBE *FREE* 400K+

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[🔗 Social Media] Let's face it; social media and privacy are always going to be two warring parties. Sure, privacy controls help users define *who* can see *what* on sites like Facebook, Twitter, and Pinterest (and some sites offer simpler, more accessible privacy options than others). But in the end, social networks are social – you're actively sharing content with the world. Anybody who thinks they can maintain a pristine level of privacy and security while still enjoying the benefits of a social community is probably deluding themselves.

Facebook is no stranger to user privacy scandals. Scenarios involving information sharing and user tracking have popped up in the last couple of years. The FTC has even stepped in and performed their own investigations.

And recently, it was revealed that Facebook actively patrols user communications for unlawful activities. **Is this a privacy betrayal from a company that sits on so much personal information about the country's inhabitants? Or is it a social good that allows Facebook to help prevent violent crimes, especially those involving children?** Let us know in the comments.

A Winnipeg man is being charged with sexual assault, sexual interference, and internet luring after Facebook intercepted communications between him and a 13-year-old girl. According to Winnipeg police, the chat messages were sexual in nature, and were brought to their attention by Facebook near the end of July.

If the phrase "Facebook intercepted communications" caught your attention, I don't blame you. And I can't say that it's not exactly what you're thinking – Facebook is actively monitoring our chats and messages. Early last month, the company revealed that it's common practice for their teams to scan chats, searching for criminal activity. It's mostly algorithms that handle this part, but once something is flagged Facebook employees make the final decision on whether or not it merits calling the authorities.

Facebook algorithms give more weight to communications between users that don't really have a lot of connections. If two users have a giant age difference or live all the way across the country from each other – the conversation may be flagged. If two users don't share many friends or have never interacted with each other before on the site – their conversation may be flagged.

So it's fair to say that the "bad apple" conversations are going to be the ones most frequently caught up in the machine. But the final screening process for reporting malicious activity means that human eyes have to look at the chat transcripts – at least every now and then.

Your Facebook Timeline

Vine Videos Will Soon Be Much Prettier
Quality enhancements
0 Comments

Here's How To Use Twitter's New Periscope App
What to do with it and what not to do with it
● Periscope
0 Comments

Should You Use Facebook Comments On Your Site?
Facebook revamps comments plugin with helpful new feature
1 Comment

Super Troopers 2 Hits Crowdfunding Goal in a Day
Mother of God
1 Comment

Facebook Finally Lets You Embed Facebook Videos
Yay!
1 Comment

360-Degree Videos: Coming Soon to Facebook News Feed
f8
1 Comment

Facebook Launches Blueprint To Teach You Some Things
It's kind of like a Khan Academy for Facebook marketing
0 Comments

Facebook Wants to Keep Those Videos Coming
Forever and ever and ever and ever

APP. 372

Back to Winnipeg, and to the 25-year-old man who was sending sexual messages to the underage girl. Authorities say that Facebook described the chats to them as "inappropriate" and "explicit."

Although Facebook notified police of the chats in late July, the suspect wasn't arrested until early last week.

And according to CNEWS, a sexual assault had already taken place. There's no word on whether the police received the tip from Facebook before or after the alleged assault.

So, police now have the Facebook data to use in prosecution, but it didn't actually stop a young girl from being sexually assaulted. It's unclear if that's because Facebook caught it late, police failed to act in time, or the assault had already occurred before anyone caught wind of the inappropriate chats. Really, it's not right to blame anyone here except the pedophile who allegedly performed the violent acts – but it does show that Facebook's monitoring program isn't perfect.

However, it also demonstrates that it's possible for Facebook to do some good with their chat monitoring. It's also worked before (to perfection), according to Facebook.

When the chat monitoring story first broke, Facebook told Reuters a story of how the program had led to the arrest of a man who was in the process of soliciting a 13-year-old girl on the network. Here's how Reuters told it:

> A man in his early thirties was chatting about sex with a 13-year-old South Florida girl and planned to meet her after middle-school classes the next day. Facebook's extensive but little-discussed technology for scanning postings and chats for criminal activity automatically flagged the conversation for employees, who read it and quickly called police.

> Officers took control of the teenager's computer and arrested the man the next day, said Special Agent Supervisor Jeffrey Duncan of the Florida Department of Law Enforcement. The alleged predator has pleaded not guilty to multiple charges of soliciting a minor.

> "The manner and speed with which they contacted us gave us the ability to respond as soon as possible," said Duncan, one of a half-dozen law enforcement officials interviewed who praised Facebook for triggering inquiries.

There's really no denying than it can work. Scanning chats for suspicious activity can help to thwart child predation.

Of course, there are still privacy concerns to consider. Not everyone is convinced that Facebook has the right to monitor "private" communications. Then again, you are using their (free) service to send and receive communications, and at least now it's with the public knowledge that the company may be monitoring them. Plus, they are not the only ones engaging in this type of monitoring.

Facebook won't comment on the particulars of the Winnipeg case, but they tell me that they have zero tolerance for this type of activity and are "extremely agressive" in reporting it to the authorities.

Here's their full statement:

> We have zero tolerance for this activity on Facebook and are extremely aggressive in preventing and identifying inappropriate contact as well as reporting it and the people responsible for it to law enforcement. We're constantly refining and improving our systems and processes. However, we feel we've created a much safer environment on Facebook than exists off-line, where people can share this material in the privacy of their own homes without anyone watching.

Have they created a "much safer environment?" In your opinion, is it okay for Facebook to patrol chats in order to help identify possible criminals? Is it a good program conducted in good faith? Is it worth giving up a little bit of your privacy for the greater

APP. 373

good?

Or do you think that Facebook should cease this type of monitoring? Let us know in the comments.

🗨 **0 Comments**　　　　　　　　　　　　　　　　　■ Share on Facebook

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About Josh Wolford
Josh Wolford is a writer for WebProNews. He likes beer, Japanese food, and movies that make him feel weird afterward. Mostly beer. Follow him on Twitter: @joshgwolf Instagram: @joshgwolf Google+: Joshua Wolford StumbleUpon: joshgwolf
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Facebook Knows When You're Chatting About Your Illegal Activities

Kate Tummarello - Staff Writer, InTheCapital
07/13/12 @8:05am in Business

335

If you're committing or planning to commit a crime, it's probably not best to talk about it on Facebook. While you may think that you're safe as long as you don't publicly post about it on anyone's wall or upload pictures (how are there people who this??), but it turns out that even confining your talk of illegal activity to private Facebook chats.

According to online reports, Facebook uses a software that screens private chats to determine if participants are discussing illegal activities.

A Mashable article from earlier this week on the topic explains how the software determines which conversations might include useful information about illegal activities:

> The screening process begins with scanning software that monitors chats for words or phrases that signal something might be amiss, such as an exchange of personal information or vulgar language.
> The software pays more attention to chats between users who don't already have a well-established connection on the site and whose profile data indicate something may be wrong, such as a wide age gap. The scanning program is also "smart" — it's taught to keep an eye out for certain phrases found in the previously obtained chat records from criminals including sexual predators.
> If the scanning software flags a suspicious chat exchange, it notifies Facebook security employees, who can then determine if police should be notified.

Facebook repeated to Mashable a statement originally issued to Reuters, who first reported on the social network's chat tracking tools. "We've never wanted to set up an environment where we have employees looking at private communications, so it's really important that we use technology that has a very low false-positive rate," the

company said. By keeping most of the private chat records away from employees, Facebook is protecting itself from some privacy advocates, the Mashable article explains.

[Image via Facebook]

APP. 376

EXHIBIT L

App. 378-445
Filed Under Seal

EXHIBIT M

App. 447-499
Filed Under Seal

EXHIBIT N

App. 501-556
Filed Under Seal

EXHIBIT O

App. 558-688
Filed Under Seal

EXHIBIT P

App. 690-710
Filed Under Seal

EXHIBIT Q

App. 712-728
Filed Under Seal

EXHIBIT R

April 10, 2015

VIA E-MAIL

Joshua Jessen, Esq.
Gibson, Dunn & Crutcher LLP
1881 Page Mill Road
Palo Alto, California 94304

Christopher Chorba, Esq.
Gibson, Dunn & Crutcher LLP
333 South Grand Avenue
Los Angeles, California 90071

RE: *Campbell v. Facebook, Inc.*, N.D. Cal. Case No. 13-cv-05996-PJH

Dear Josh:

I write in response to your April 7, 2015 letter regarding Plaintiffs' interrogatory responses.

Plaintiffs' Responses to Interrogatory No. 3

As is evident from the responses themselves, Plaintiffs devoted significant time and effort to providing detailed responses to Facebook's Interrogatory No. 3. Indeed, Mr. Campbell's response contained ███████ detailed entries listing the sender, recipient, date and time, and URL associated with each Facebook message.

While Facebook's demands for even more detailed information are burdensome and harassing, in the interest of compromise Plaintiffs will provide more detailed information for the senders and/or recipients of the relevant Facebook messages. While Plaintiffs will make every effort to provide this information expeditiously, given the work-intensive nature of the responses Facebook seeks and the numbers of senders and recipients involved, Plaintiffs cannot commit to providing this information by a date certain of April 14.

Plaintiffs' Responses to Interrogatory No. 5

Plaintiffs maintain their general and specific objections to this Interrogatory. Additionally, Facebook's demand for "all facts" is vague, overly broad, inherently burdensome,

Joshua Jessen, Esq.
Christopher Chorba, Esq.
April 10, 2015
Page 2

seeks irrelevant information, and is in principle unanswerable. *See Haggarty v. Wells Fargo
Bank, N.A.*, No. 10-2416 CRB JSC, 2012 U.S. Dist. LEXIS 133375, at *2 (N.D. Cal. Sept. 18, 2012)
("While contention interrogatories are permitted, they 'are often overly broad and unduly
burdensome when they require a party to state 'every fact' or 'all facts' supporting identified
allegations or defenses.'") (quoting *Mancini v. Ins. Corp. of New York*, No. 07-1750 L NLS,
2009 U.S. Dist. LEXIS 51321, at *9 (S.D. Cal. June 18, 2009)).

Subject to and without waiving these objections, Plaintiffs supplement their responses to
Facebook's Interrogatory No. 5 as follows:

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2. ███
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3. ███
███
███
███

**Plaintiffs' Responses to Facebook's Contention Interrogatories (Interrogatory Nos. 6 & 7;
Plaintiff Campbell's Responses to Interrogatory Nos. 9, 10, 11, 12 and 13; Plaintiff
Shadpour's Responses to Interrogatory Nos. 9, 10, and 11)**

We disagree with Facebook's assertion that it is entitled to more detailed responses to its
contention interrogatories at this stage in the case, before any substantive discovery has taken
place. Given that Facebook has yet to produce a single non-public document or a single line of
source code, discovery in this case has only just begun and is nowhere near substantial, let alone
substantially complete. We agree that it is appropriate for the parties to meet and confer
regarding Plaintiffs' responses to Facebook's contention interrogatories. Please provide us times
during which you are available to meet and confer.

Joshua Jessen, Esq.
Christopher Chorba, Esq.
April 10, 2015
Page 3

Sincerely,

David T. Rudolph

DTR/wp

1225373.1

EXHIBIT S

App. 734-914
Filed Under Seal

EXHIBIT T

App. 916-970
Filed Under Seal

EXHIBIT U

App. 972-973
Filed Under Seal

EXHIBIT V

App. 975-977
Filed Under Seal

EXHIBIT W

Lieff
Cabraser
Heimann&
Bernstein

Attorneys at Law

July 24, 2015

VIA E-MAIL

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jjessen@gibsondunn.com

RE: *Campbell v. Facebook, Inc.*, N.D. Cal. Case No. 13-cv-05996-PJH

Dear Josh:

I write regarding Plaintiffs' Interrogatory No. 8 and Request for Production No 41.

As an initial matter, to the extent Facebook objects to the terms used in Interrogatory No. 8, these are Facebook's employees' own terms used to describe Facebook's internal data systems in a presentation at a public symposium. *See* Bronson, et al, TAO: Facebook's Distributed Data Store for the Social Graph, USENIX ATC'13 Proceedings of the 2013 USENIX conference on Annual Technical Conference, § 3.1 (June, 2013)[1] (the "Bronson Article"). As such, at this stage in the case, it is Facebook, not Plaintiffs, that is in the best in position to define and understand these terms.

For reference, Interrogatory No. 8. requests that Facebook:

> Identify all facts relating to the Processing of each Private Message sent or received by Plaintiffs containing a URL[2], including, for each Private Message:
>
> (A)   all Objects that were created during the Processing of the Private Message, including the (id) and the Object Type for each

---

[1] Available at https://research.facebook.com/publications/161988287341248/tao-facebook-s-distributed-data-store-for-the-social-graph/.

[2] Each such Private Message has been identified by each Plaintiff in Exhibit 1 to his respective Objections and Responses to Defendant's First Set of Interrogatories.

Object, as well as any Key -> Value Pair(s) contained in each Object;

(B)   all Objects that were created specifically when the embedded URL was shared, including the (id) and the Object Type for each Object, as well as any Key -> Value Pair(s) contained in each Object;

(C)   all Associations related to each Private Message, identified by the Source Object, Association Type, and Destination Object, as well as any Key -> Value Pair(s) contained in each Association;

(D)   the database names and table names in which each Association and Object is stored;

(E)   each application or feature in Facebook that uses the Objects or Associations created for each Private Message; and

(F)   how each Object associated with the Private Message was used by Facebook.

The terms "id," "Objects," "Object Type," "Source Object," "Destination Object," "Association," "Association Type," and "Key -> Value Pair" are all used in the Bronson Article in the context of describing Facebook's TAO data store. As described at page 50 of the Bronson Article:

> TAO objects are typed nodes, and TAO associations are typed directed edges between objects. Objects are identified by a 64-bit integer (id) that is unique across all objects, regardless of object type (otype). Associations are identified by the source object (id1), association type (atype) and destination object (id2). At most one association of a given type can exist between any two objects. Both objects and associations may contain data as key→value pairs. A per-type schema lists the possible keys, the value type, and a default value. Each association has a 32-bit time field, which plays a central role in queries.

Objects and associations are further described in the Bronson Article as follows:

Object: $(id) \rightarrow (otype, (key\ value)*)$

Assoc.: $(id1, atype, id2) \rightarrow (time, (key\ value)*)$

Additionally, Facebook's interrogatory responses discuss the creation of "share objects" which are created when a URL is embedded in a Private Message. *See, e.g.,* Facebook's Response to Plaintiffs' Interrogatory No. 2.

Consistent with and pursuant to these descriptions, Plaintiffs seek identification and data production of each of the Objects and Associations created when Facebook processed Plaintiffs' Private Messages containing a URL. With respect to a written interrogatory response, Plaintiffs request a list of all the Objects and Associations created during the process of sending these Private Messages. With respect to data production—which is equally important—Plaintiffs request that this data be produced in a standard data format, preferably JSON, though XML, CSV, or other common standard formats would be acceptable if production in JSON is not possible.

For each Object, in addition to its identifier, Plaintiffs request identification and production of the Object's attributes. For example, for Facebook individual users, this information would include the user's first and last name, gender, age range, etc. For Facebook pages, this could include the title and id in the relevant URL. For external URLs, it would include relevant Open Graph data, like page title and description. Generally, for each Object, Plaintiffs request enough information about it that Plaintiffs can determine the identity of that Object and how it might be used by applications within Facebook.

As we discussed, in the interest of compromise, Plaintiffs are amenable to initially limiting the production of this information to a subset of the total messages at issue, though Plaintiffs reserve the right to seek this data for further messages. Plaintiffs request this information for the following messages identified in the table attached as Exhibit 1 to Mr. Hurley's Response to Facebook's First Set of Interrogatories:

	To	From	Date	URL
1	██████	██████	████████████ ██	████████████████ ████████████████ ██████████
2	██████	██████	██████ ██████	████████████████ ██████.
3	██████	██████	██████ ██████	██████████████ ██████████
4	██████	██████	██████ ██████	██████████████
5	██████	██████	██████ ██████	██████████████ ██████████████ ██████████
6	██████	██████	██████████	██████████████

	To	From	Date	URL
			11:54pm PDT	
7	██████	██████	██████ ██████	██████████ ██████████ ██████
10	██████	██████	██████ ██████	██████████ ██████

Plaintiffs additionally request this information for the following messages identified in the table attached as Exhibit 1 to Mr. Campbell's Response to Facebook's First Set of Interrogatories:

	To	From	Date	URL
68	████	██████	██████ ██████	██████████ ██.
89	██████	██████ ███	██████ ████	██████████ █
93	██████	██████ ███	██████ ████	██████████. ██████████ ██.
99	██████	██████	██████ ████	██████████ ██████████. ██.
113	██████ ██████████ ██████	██████ ████	██████ ████	██████████ ██████████ ████████ ██████
115	██████	██████████████████ ████	██████████ ████████ ██████
123	██████████████ ████ ████ ████	██	█	
200	██████	██████	██████ ████	██████████ ██████████ ████████ ████████

	To	From	Date	URL
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			██████	████████████████████
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654	████████████	████████████	████████	██████████████████
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      Please let us know when Facebook will produce this information and data. As we discussed during the July 9 in-person meet and confer, if Facebook does not agree to produce this information and data, Plaintiffs will seek relief from the Court. We request a written response and data production consistent with the above by no later than August 3, 2015.

      Sincerely,

      David T. Rudolph

DTR/wp

EXHIBIT X

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13 Attorneys for Defendant
   FACEBOOK, INC.
14

15   UNITED STATES DISTRICT COURT

16   NORTHERN DISTRICT OF CALIFORNIA

17   OAKLAND DIVISION

18 MATTHEW CAMPBELL, MICHAEL   Case No. C 13-05996 PJH (MEJ)
   HURLEY, and DAVID SHADPOUR,
19   **PUTATIVE CLASS ACTION**
                    Plaintiffs,
20   **DEFENDANT FACEBOOK, INC.'S**
        v.   **RESPONSES AND OBJECTIONS TO**
21   **PLAINTIFFS' FIRST SET OF REQUESTS**
   FACEBOOK, INC.,   **FOR ADMISSION**
22
                    Defendant.
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Defendant Facebook, Inc. ("Defendant" or "Facebook"), by and through its attorneys, and pursuant to Rules 26 and 36 of the Federal Rules of Civil Procedure, the Local Civil Rules of the U.S. District Court for the Northern District of California, the Court orders in this action, and the parties' agreements and conferences among counsel, provides the following responses and objections to Plaintiffs' First Set of Requests for Admission (each, a "Request," collectively the "Requests").

OBJECTIONS TO DEFINITIONS

1. Facebook objects to Plaintiffs' definition and use of the terms "You" or "Your" as vague, ambiguous, overly broad, and unduly burdensome to the extent the terms are meant to include "directors, officers, employees, partners, members, representatives, agents (including attorneys, accountants, consultants, investment advisors or bankers), and any other person purporting to act on [Facebook, Inc.'s] behalf. . . . parents, subsidiaries, affiliates, predecessor entities, successor entities, divisions, departments, groups, acquired entities and/or related entities or any other entity acting or purporting to act on its behalf" over which Facebook exercises no control, and to the extent that Plaintiffs purport to use these terms to impose obligations that go beyond the requirements of the Federal and Local Rules.

OBJECTION TO PURPORTED "RELEVANT TIME PERIOD"

Facebook objects to Plaintiffs' proposed "Relevant Time Period" (September 26, 2006 through the present) because it substantially exceeds the proposed class period identified in Plaintiffs' Consolidated Amended Complaint, does not reflect the time period that is relevant to Plaintiffs' claims in this action, and renders the Requests overly broad, unduly burdensome, and irrelevant. Unless otherwise specified, and pursuant to the agreement of the parties, Facebook's Responses to these Requests will be limited to information generated between April 1, 2010 and December 30, 2013.

SPECIFIC RESPONSES AND OBJECTIONS TO REQUESTS FOR ADMISSIONS
REQUEST FOR ADMISSION NO. 1:

Admit that You have never had "a dedicated team of privacy professionals," as that term appears in Your 2012 Form 10-K and Your 2013 Form 10-K.

1

Gibson, Dunn & Crutcher LLP

DEFENDANT FACEBOOK, INC.'S RESPONSES AND OBJECTIONS TO
PLAINTIFFS' FIRST SET OF REQUESTS FOR ADMISSION
Case No. C 13-05996 PJH (MEJ)

APP. 986

RESPONSE TO REQUEST FOR ADMISSION NO. 1:

Facebook restates and incorporates its Objections to Definitions and its Objection to the Purported "Relevant Time Period" as though fully set forth in this Response. Subject to and without waiving the foregoing objections, Facebook denies this Request.

DATED: June 29, 2015   GIBSON, DUNN & CRUTCHER LLP

             By: */s/*
                  Joshua A. Jessen

             Attorney for Defendant FACEBOOK, INC.

PROOF OF SERVICE

I, Ashley M. Rogers, declare as follows:

I am employed in the County of Santa Clara, State of California, I am over the age of eighteen years and am not a party to this action; my business address is 1881 Page Mill Road, Palo Alto, CA 94304-1211, in said County and State. On June 29, 2015, I served the following document(s):

DEFENDANT FACEBOOK, INC.'S RESPONSES AND OBJECTIONS TO PLAINTIFFS' FIRST SET OF REQUESTS FOR ADMISSION

on the parties stated below, by the following means of service:

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3

Gibson, Dunn & Crutcher LLP

DEFENDANT FACEBOOK, INC.'S RESPONSES AND OBJECTIONS TO
PLAINTIFFS' FIRST SET OF REQUESTS FOR ADMISSION
Case No. C 13-05996 PJH (MEJ)

APP. 988

1   ☑   **BY ELECTRONIC SERVICE**: On the above-mentioned date, based on a court order or
2   an agreement of the parties to accept service by electronic transmission, I caused the
documents to be sent to the persons at the electronic notification addresses as shown
3   above.

4   ☑   I am employed in the office of Joshua A. Jessen and am a member of the bar of this court.

5   ☑   I declare under penalty of perjury that the foregoing is true and correct.

6

7   Executed on June 29, 2015.

8   _/s/_
                                                              Ashley M. Rogers
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DEFENDANT FACEBOOK, INC.'S RESPONSES AND OBJECTIONS TO
PLAINTIFFS' FIRST SET OF REQUESTS FOR ADMISSION
Case No. C 13-05996 PJH (MEJ)

APP. 989

EXHIBIT Y

CARNEY
BATES &
PULLIAM
PLLC

April 7, 2015

VIA E-MAIL

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> RE: *Campbell v. Facebook, Inc.*, N.D. Cal. Case No. 13-cv-05996-PJH

Counsel:

I am writing to follow-up on two sets of issues we discussed during the meet and confer on March 17, 2015.

First, Plaintiffs are amenable to limiting the "Relevant Time Period" in Plaintiffs' First Set of Requests for Document Production to the period beginning on April 1, 2010 and extending to the date of filing of this action (December 30, 2013). Please let us know if Facebook is agreeable to producing documents within this compromise time period. If we cannot reach closure on this issue prior to April 13th, we will seek Magistrate Judge James's assistance in resolving this issue at the discovery conference.
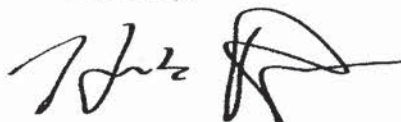
In addition, based on our discussions at the meet and confer, Plaintiffs are willing to limit, unilaterally, the following document requests as detailed below. Note that these proposed limitations are only for the present and that we reserve all rights under Federal Rule of Civil Procedure 26 to seek, at some future date, the full scope of discovery stated in our Requests for Production.

- Request for Production No. 12: Plaintiffs are willing to table this Request at present.

- Request for Production No. 15: Plaintiffs are willing to table this Request at present.

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www.cbplaw.com
APP. 991

- <u>Request for Production No. 16</u>: Plaintiffs are willing to limit the scope of this Request to the context of Passive Likes.

- <u>Request for Production No. 17</u>: Plaintiffs are willing to limit the scope of this Request to the context of Passive Likes.

- <u>Request for Production No. 18</u>: Plaintiffs are willing to table this Request at present.

- <u>Request for Production No. 23</u>: Plaintiffs are willing to table this Request at present.

- <u>Request for Production No. 24</u>: Plaintiffs are willing to table this Request at present.

- <u>Request for Production No. 27</u>: Plaintiffs are willing to limit the scope of this Request to the context of Private Messages.

- <u>Request for Production No. 28</u>: Plaintiffs are willing to limit the scope of this Request to the context of Private Messages.

- <u>Request for Production No. 29</u>: Plaintiffs are willing to limit the scope of this Request to the context of the three areas enumerated in the Request (obtaining consent of Facebook Users for Your practices implicating privacy and data use; Private Messages; and the acts and practices described in the Complaint).

- <u>Request for Production No. 30</u>: Plaintiffs are willing to limit the scope of this Request to the context of Private Messages.

If you are amenable to producing documents consistent with the proposed limitations set forth above, we request that you let us know by end of business on Friday, April 10, 2015.

Sincerely,

Hank Bates

HB/jcg

EXHIBIT Z

May 13, 2015

VIA ELECTRONIC MAIL

Hank Bates, Esq.
Carney Bates & Pulliam, PLLC
2800 Cantrell Road, Suite 510
Little Rock, AR 72202

Re: *Campbell v. Facebook, Inc.*, N.D. Cal. Case No. 13-cv-05996-PJH

Dear Hank:

Thank you for letter of May 1, 2015.

In response to the questions raised in the first paragraph of your letter, we have identified the following six custodians and are in the process of collecting and reviewing their documents based on the search terms set forth in the Appendix attached to this letter: Michael Adkins; Alex Himel; Ray He; Matt Jones; Jordan Blackthorne; and Peng Fan. Additionally, we are in the process of identifying additional custodians based on a review of relevant documents in the possession of the above-named custodians.

Please let us know if you have any objection to the search terms we are using or any questions about the identified custodians.

With respect to the issues raised in the second paragraph of your letter, we are gathering all documents we have agreed to produce and will provide them as they are ready for production. We anticipate another production on June 1, which will include many of these documents (in addition to the documents we will be producing pursuant to Magistrate Judge James' April 13, 2015 Order). Facebook maintains its objections to Plaintiffs' Request for Production Nos. 27, 28, and 30 (even as narrowed by your letter of April 7, 2015). Please also note that Facebook has not been contacted by regulators in the United States regarding the practices at issue in this case, including message "scanning," so to the extent your requests seek such documents, they do not exist. Also, as I noted in my letter of April 10, 2015, with respect to Request No. 29, there is no specific list of the "dedicated team of privacy professionals" referenced in the Request.

Finally, with respect to the "Relevant Time Period" proposed in your letter dated April 7, 2015 (April 1, 2010 to December 30, 2013), in the interests of compromise we are amenable to agreeing to an end date of December 30, 2013—notwithstanding the fact that Plaintiffs

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APP. 994

allege in their Complaint that "Facebook ceased [its] [allegedly] illegal practice at some point after it was exposed in October 2012." However, we continue to believe that the start date should be the start of the proposed class period (December 30, 2011), although we are amenable to producing documents before that date sufficient to identify when the challenged practice began. Please let us know if this agreeable.

Let me know if you would like to arrange a call to discuss these issues further.

Also, if there are additional custodians from whom you plan to collect documents (in addition to the named Plaintiffs), please identify them. As noted in our previous requests, please also let us know when we may expect documents from Mr. Shadpour.

Sincerely,

Joshua A. Jessen

Appendix

List of Search Terms
("like button count" or "like count" or "Like plugin" or "like plug-in") w/25 (message! or messenger or titan or chat!)
("share object" or "share_object") w/25 (message! or messenger or titan or chat!)
("share button" or "share_button") w/25 (message! or messenger or titan or chat!)
(Sharecount or share_count or "share count") w/25 (message! or messenger or titan or chat!)
(Postcount or Post_count) w/25 (message! or messenger or titan or chat!)
("social plugin" or "social plug-in") w/25 (message! or messenger or titan or chat!)
"share/like counter" w/25 (message! or messenger or titan or chat!)
(url or urls) and share and (message! or messenger or titan or chat!)
(url or urls) and preview and (message! or messenger or titan or chat!)
(message! or messenger or titan) w/25 (scan!)
(message! or messenger or titan) w/25 (process!)
(message! or messenger or titan) and (spam! or filter or "junk" or "unsolicited")
(Bug or error) w/25 ("like count" or "like button count" or sharecount or "share count" or "share stats") and (message! or messenger or titan)
"Graph API" w/25 ("like count" or "like button count" or sharecount or "share count" or "share stats") and (message! or messenger or titan)
(message! or messenger or titan) w/25 (advertising or advertiser! or ads)
(message! or messenger or titan) w/25 target!
"Site integrity" w/25 (architecture or flow or diagram or chart or graph or tree) and (message! or messenger or titan)
(message! or messenger or titan) w/25 (architecture or flow or diagram or chart or graph or tree)
(sharescrapper or "share scrapper" or share_scrapper or share-scrapper) w/25 (message! or messenger or titan or chat!)
Kashmirhill and yahootix
forbes and (messages or messenger or "like button" or "like count" or "share count")
wsj and (messages or messenger or "like button" or "like count" or "share count")
"wall street journal" and (messages or messenger or "like button" or "like count" or "share count")
("Digital Trends" or "digitaltrends.com") and "Bug" and "Facebook" and "Like"

("Hacker News" or "news.ycombinator.com") and "Facebook Graph API"
("Hacker News" or "news.ycombinator.com") and "Facebook" and "likes"

2

EXHIBIT AA

June 12, 2015

VIA ELECTRONIC MAIL

David Rudolph, Esq.
Lieff Cabraser Heimann & Bernstein, LLP
275 Battery Street, 29th Floor
San Francisco, CA 94111

Re: *Campbell v. Facebook, Inc.*, N.D. Cal. Case No. 13-cv-05996-PJH

Dear David:

Thank you for your letter of June 5, 2015.

First, as I noted in my May 13, 2015 letter to Hank Bates, in response to Plaintiffs' offer to compromise, Facebook will produce documents through an end date of December 30, 2013.

Second, with respect to a production start date, while the Himel Declaration does discuss certain events dating back to September 2009 to provide context for the practice that Plaintiffs challenge, the exhibits to the Declaration show that the challenged practice did not commence until August 2010. However, in the interests of compromise, we are amenable to a production start date of April 2010, as proposed by Hank in his letter of April 7, 2015. If there are specific requests or custodians for whom Plaintiffs believe an earlier start date is appropriate, we are willing to discuss that with you. But an *en masse* collection and production of documents going back to 2009 is overbroad, unduly burdensome, and inappropriate, and also would be inconsistent with the proportionality requirement in Rule 26(b)(2)(C) and (g)(1)(B), the Stipulated Order re Discovery of Electronically Stored Information in this case (Dkt. 74), as well as the District Court's ESI Guideline 1.03.

Finally, we are still in the process of determining what legal obligations (including notification obligations) may exist with respect to potentially producing any communications

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APP. 999

GIBSON DUNN
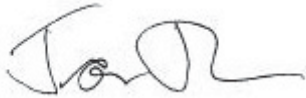
exchanged between Facebook and the Irish Data Protection Commissioner regarding Facebook's Messages Product. I expect to have a better idea of those obligations next week and will revert to you at that time.

Sincerely,

Joshua A. Jessen

EXHIBIT BB

1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3   OAKLAND DIVISION

4

5   MATTHEW CAMPBELL, MICHAEL HURLEY,)

6   and DAVID SHADPOUR,   )

7   Plaintiffs,   )

8   ) Case No.

9   vs.   ) C 13-05996 PJH

10   FACEBOOK, INC.,   )

11   Defendant.   )

12 _____)

13

14   HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

15   VIDEOTAPED DEPOSITION OF JIAKAI LIU

16   Palo Alto, California

17   June 30, 2015

18   Volume I

19

20

21   Reported by:

22   KELLI COMBS, CSR No. 7705

23   Job No. 2094258

24   Pages 1 – 256

25

APP. 1002

1 of communication did you primarily use?   10:52:01AM

2   A   In what context?

3   Q   In terms of electronic communication. So

4 I'll withdraw the question.

5   Did you typically e-mail other members of   10:52:13AM

6 the Software Engineering team between 2010 and 2012?

7   A   Yes.

8   Q   Other than e-mail, did you use any other

9 form of electronic communications such as Chat or

10 some sort of internal e-mail system, et cetera?   10:52:31AM

11   A   Yes.

12   Q   And tell me about those other means of

13 communication you used.

14   A   Facebook Messages, that includes Chat and,

15 like, non-chat Message. That's primarily that, I   10:52:47AM

16 think. I might miss some other tool, but I couldn't

17 recall at this point.

18   Q   What was -- what was your e-mail address

19 between 2010 and 2012, your Facebook?

20   A   It's liujiakai@FB.com.   10:53:21AM

21   Q   If you'd turn back to Exhibit Number 2 and

22 you look on the second page, do you see the heading

23 "Understanding Cells"?

24   A   Yes.

25   Q   And do you see the third bullet point   10:53:54AM

Page 50

1   send her a message and what's going to happen, like,   11:44:49AM

2   after the request enters the first, like, Facebook

3   ████████████

4   Q   And -- so let's -- let's walk through this

5   diagram. What does ██████mean?   11:45:06AM

6   ████████████████████████████

7   ████████████████████████████

8   ████████████████████████████

9   ████████████████████████████

10   ████████████████████████████   11:45:34AM

11   Q   And then how about that next box, "Spam

12   Detection"; what does that mean?

13   A   Spam Detection means we detect whether a

14   message is a spam message or not.

15   Q   And did you play any role in creating the   11:45:47AM

16   Spam Detection functionality?

17   A   No.

18   Q   Who was primarily responsible for that?

19   A   We call it Site Integrity on Facebook.

20   Q   And did you have a primary point of   11:46:05AM

21   contact in the Site Integ- -- on the Site Integrity

22   team between 2010 and 2012?

23   A   I didn't personally. I couldn't remember.

24   Q   Did you write any code that dealt with

25   spam detection in the Messages product?   11:46:23AM

Page 84

1   1:22:09PM

2

3   Q Let's -- let's turn just for one few more

4 questions back to Exhibit Number 3. And I want to

5 go to the -- that diagram on the second page, the 1:23:34PM

6 "Incoming Flow" diagram. And we talked a little bit

7 about spam detection earlier, and you indicated that

8 Site Integrity was primarily responsible for that.

9   Do you know whether Facebook does any

10 malware detection on incoming messages? 1:24:02PM

11   A I don't know.

12   Q Don't know?

13   A I don't.

14   Q And just so we're clear, do you know

15 whether they did any malware scanning of incoming 1:24:15PM

16 messages between January 1st, 2010, and January 1st,

17 2013?

18   A I don't have firsthand knowledge. Yeah, I

19 don't have firsthand knowledge.

20   Q Do you ever recall having any discussions 1:24:36PM

21 with anyone about any malware scanning that Facebook

22 was doing?

23   MR. JESSEN: Object to form.

24   THE WITNESS: I couldn't recall now. It

25 might, but because it's, like, four, five years ago, 1:24:52PM

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1   I couldn't recall now.   1:24:55PM

2   BY MR. CARNEY:

3   Q   Do you recall whether you were -- ever

4   wrote any code dealing with malware scanning?

5   A   I couldn't remember at this point. I   1:25:15PM

6   couldn't remember.

7   Q   Do you know whether Facebook does any

8   scanning to protect the site from hackers? Strike

9   that.

10   Do you know whether Facebook did any   1:25:34PM

11   scanning to protect the site from hackers between

12   January 1st, 2010, January 1st, 2013?

13   A   I think that's what Site Integrity team

14   does -- did; that's their job detail.

15   Q   Did you have any discussions with anyone   1:25:52PM

16   at the Site Integrity team regarding their efforts

17   to prevent or protect the site from hackers related

18   to the Messages product?

19   A   I couldn't remember the exact

20   conversation. I might be in some e-mail thread or   1:26:10PM

21   something, but I couldn't remember.

22   Q   Do you recall whether you wrote any code

23   dealing with efforts to protect the site from

24   hackers?

25   A   I couldn't remember.   1:26:31PM

Page 108

1   I, the undersigned, a Certified Shorthand

2   Reporter of the State of California, do hereby certify:

3   That the foregoing proceedings were taken

4   before me at the time and place herein set forth; that

5   any witnesses in the foregoing proceedings, prior to

6   testifying, were administered an oath; that a record of

7   the proceedings was made by me using machine shorthand

8   which was thereafter transcribed under my direction;

9   that the foregoing transcript is a true record of the

10   testimony given.

11   Further, that the foregoing pertains to the

12   original transcript of a deposition in a Federal Case,

13   before completion of the proceedings, a review of the

14   transcript [X] was [ ] was not requested.

15   I further certify I am neither financially

16   interested in the action nor a relative or employee of

17   any attorney or any party to this action.

18   IN WITNESS WHEREOF, I have this date

19   subscribed my name.

20

21   Dated: July 7, 2015

22

23

24   _____

     KELLI COMBS

25   CSR No. 7705

                                            Page 256

In the Matter of: *Campbell et al. v. Facebook, Inc.*
Case No. 13-CV-05996-PJH

Date of deposition: June 30, 2015

Witness: Jiakai Liu

Reason codes:

1. To clarify the record.
2. To conform to the facts.
3. To correct transcription errors.

Page	Line	Reads	Should Read	Reason Code
9	23	Street address is	Street address is	3
14	21	Q. And what type of software did you build at Google? A. It varies. For example, I worked on Google Book Search for a while and then because the Web -- because the Web is like the photo service and a few other things.	Q. And what type of software did you build at Google? A. It varies. For example, I worked on Google Book Search for a while and then Picasa Web which is like the photo service and a few other things.	3
16	18	Q. Can you tell me what their names are? A. One of them was Hary Wang, H-A-R-Y W-A-N-G.	Q. Can you tell me what their names are? A. One of them was Harry Wang, H-A-R-R-Y W-A-N-G.	3
21	4	A. Kannan, K-A-N-N-A-N; Karthic, Karthic.	A. Kannan, K-A-N-N-A-N; Karthik.	3
28	6	Q. Who was your boss on the Home team? A. It was Tom Addison.	Q. Who was your boss on the Home team? A. It was Tom Alison.	3
29	4	Q. Is Mr. Addison still your boss? A. No.	Q. Is Mr. Alison still your boss? A. No.	1
60	24	Q. Why did you write it? A. Same reason as, like, this block post.	Q. Why did you write it? A. Same reason as, like, this blog post.	3
71	16	And when the reviewers are happy, like,	And when the reviewers are happy, like, satisfied,	3

Page	Line			
		satisfied, they can accept the change, and then you can lend the change, commit the change to the repository.	they can accept the change, and then you can land the change, commit the change to the repository.	
94	21	A. Uh-huh.	A. Uh-huh.	3
94	23	It	It	3
99	25	Q. What's a	Q. What's a	3
106	3	their Facebook e-mail address, by the time team we support e-mail address for Facebook users, and that message will start an e-mail-originated thread.	their Facebook e-mail address, by the time we support e-mail address for Facebook users, and that message will start an e-mail-originated thread.	3
108	14	A. I think that's what Site Integrity team does – did; that's their job detail.	A. I think that's what Site Integrity team does – did; that's their job duty.	3
121	3	Q. How about Michael Adkins? A. Michael Adkins, I heard his name, but I don't know him personally or worked with him, no.	Q. How about Michael Adkins? A. Michael Adkins, it's a guy I know on Messages team and had some work relationship.	1
123	21	A. Andrew Bosworth, the boss, Andrew Bosworth I mentioned earlier.	A. Andrew Bosworth, the Boz, Andrew Bosworth I mentioned earlier.	3
164	21	So, to me, it's like two independent concepts. One, it's the implementation for Facebook Messages, which I had worked on and continue to work on, like, is the patent worth filing.	So, to me, it's like two independent concepts. One, it's the implementation for Facebook Messages, which I had worked on and continue to work on, like, while the patent was filing.	3
197	7	The	The	3
197	10	The	The	3

:27:34PM

PM

6 MR. CARNEY: All right. No further
7 questions. Thank you for your time.
8 THE WITNESS: Thank you.
9 THE VIDEOGRAPHER: Anybody else?
10 MR. JESSEN: Just give me a minute.   6:28:14PM
11 MR. CARNEY: Of course.
12 THE VIDEOGRAPHER: We are off the record
13 at 6:28 p.m.
14   (Recess taken.)
15 MR. JESSEN: No questions from me.   6:28:25PM
16 THE VIDEOGRAPHER: We're back on the
17 record at 6:29 p.m.
18 MR. JESSEN: I have no questions for this
19 witness.
20 THE VIDEOGRAPHER: This is the end of   6:29:15PM
21 today's deposition of Mr. Jiakai Liu. We are off
22 the record at 6:29 p.m. Thank you.
23   (Time noted: 6:29 p.m.)
24
25

Page 254

1 I, the undersigned, a Certified Shorthand
2 Reporter of the State of California, do hereby certify:
3   That the foregoing proceedings were taken
4 before me at the time and place herein set forth; that
5 any witnesses in the foregoing proceedings, prior to
6 testifying, were administered an oath; that a record of
7 the proceedings was made by me using machine shorthand
8 which was thereafter transcribed under my direction;
9 that the foregoing transcript is a true record of the
10 testimony given.
11   Further, that the foregoing pertains to the
12 original transcript of a deposition in a Federal Case,
13 before completion of the proceedings, a review of the
14 transcript [X] was [ ] was not requested.
15   I further certify I am neither financially
16 interested in the action nor a relative or employee of
17 any attorney or any party to this action.
18   IN WITNESS WHEREOF, I have this date
19 subscribed my name.
20
21 Dated: July 7, 2015
22
23
24   *Kelli Combs*
         KELLI COMBS
25   CSR No. 7705

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1
2
3
4
5
6
7
8 I, JAIKAI LIU, do hereby declare under penalty of
9 perjury that I have read the foregoing transcript; that
10 I have made any corrections as appear noted, in ink,
11 initialed by me; that my testimony as contained herein,
12 as corrected, is true and correct.
13   EXECUTED this ___7th__ day of __Aug__, 2015, at
14 MENLO PARK   CA .
15 (city)   (State)
16
17
18   ____Jiakai Liu____
         JAIKAI LIU
19
20
21
22
23
24
25

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65 (Pages 254 - 256)

APP. 1010

EXHIBIT CC

1   UNITED STATES DISTRICT COURT
2   NORTHERN DISTRICT OF CALIFORNIA
3
4   _____
)
5   MATTHEW CAMPBELL, MICHAEL   )
     HURLEY, and DAVID SHADPOUR, on   )
6   behalf of themselves and all   )
     others similarly situated,   )
7   )
8   Plaintiffs,   )
)
9   vs.   ) Case No.
) C 13-05996 PJH
10   FACEBOOK, INC.,   )
)
11   Defendant.   )
     _____)
12
13   HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY
14
15   VIDEOTAPED DEPOSITION OF RAY HE
16   Palo Alto, California
17   Friday, September 25, 2015
18   Volume I
19
20
21   Reported by:
     CHRIS TE SELLE
22   CSR No. 10836
23   Job No. 2144894
24
25   PAGES 1 - 273

                                         Page 1

```
 1   describe as a ████████████████████              10:19:23

 2        Q.   Between ██████ and what?

 3        A.   And ██████████

 4        Q.   What's a ████████

 5        A.   ██████████████████████              10:19:37

 6   ██████████████████

 7        Q.   What's a ██████████

 8        A.   ██████████████████████

 9   ████████████████████████████

10   ████████████████████████████              10:19:58

11        Q.   What is a ██████?

12        A.   ██████████████████████

13   ████████████████████████████

14   ████████████████████████████

15   ████████████████████████████              10:20:32

16        Q.   ████████████████████

17   ████████████████████████████

18   ████████████████████████████

19        MR. CHORBA:  Objection.  Vague as to time.

20        THE WITNESS: ██████████████████              10:20:56

21   ██████████

22   BY MR. CARNEY:

23        Q.   Okay.  2009 to 2012.

24        A.   I believe so, yes.

25        Q.   At what time period was that different?    10:21:09
```

```
 1          MR. CHORBA:  Objection.  Vague as to              11:04:44

 2    share_count.

 3          THE WITNESS:  Depends on what you mean by

 4    ████████████████

 5    BY MR. CARNEY:                                          11:04:48

 6          Q.   What did you mean by ████████ when you

 7    used that term in this e-mail?

 8          A.   I couldn't, I don't remember what I meant,

 9    because ███████ means two different things.

10          Q.   Okay.  What are the two things ████████    11:05:01

11    means?

12    ████████████████████████████████████████████

13    ████████████████████████████████████████████

14    ████████████████████████████████████████████

15    ████████████████████████████████████████████       11:05:21

16    ████████████████████████████████████████████

17          Q.   What did you mean by, ████████████████?

18          A.   Not all ████████████ created are

19    accounted for in the ████████.

20          Q.   Which ones are not?                         11:05:59

21    ████████████████████████████████████████████

22    ████████████████████████████████████████████

23    ████████████████████████████████████████████

24          Q.   And what is a ████████████?

25          A.   ████████████████████████████             11:06:17
```

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APP. 1014

```
 1                                                    11:06:23

 2

 3

 4

 5                                                    11:06:36

 6

 7

 8

 9        Q.    Okay.

10        A.    Also, there have been periods of time  11:06:51

11

12        Q.    What does that mean?

13

14

15        Q.    When -- strike that.                  11:07:10

16        Did you                              at any time

17   between 2009 and 2012?

18        A.    Yes, for

19

20        Q.    But it's just for                  ,   11:07:22

21

22        A.

23

24        Q.    When did that occur?

25        A.    I can't say for sure, but I believe in 11:07:39
```

Page 78

1   A.   I believe the ████████████████████   11:37:12

2   ████████████████████████████████████

3   Q.   Did you work on the █

4   ████████████████████████

5   A.   Yes.   11:37:32

6   Q.   Who was that information made available --

7   strike that question.

8   ████████████████████████████████████

9   ████████████████████████   who was that

10   information made available to? Facebook employees   11:37:46

11   only, or third parties?

12   ████████████████████████████████

13   █

14   Q.   Did you ever ████████████████████

15   ████████████████   11:38:04

16   A.   Yes.

17   Q.   And what was it?

18   ██

19   ██

20   ██   11:38:22

21   Q.   What were the other reasons?

22   A.   ████████████████████████

23   Q.   And was that functionality ████████████

24   ██

25   ██   11:38:44

1   A.   No.   11:38:44

2   Q.   Do you see the term, ▮▮▮▮ that's in the

3   comments section?

4   A.   Yes.

5   Q.   What is ▮▮▮▮, as that term is used there?   11:39:05

6   A.   ▮▮

7   Q.   And in 2009, ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

8   A.   It depends on what you mean.

9   ▮▮▮

10   ▮▮   11:39:35

11   ▮▮▮

12   ▮▮▮

13   A.   ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

14   Q.   ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮

15   ▮▮▮   11:39:43

16   A.   I would not be able to make a list of

17   those from memory.

18   Q.   Do you know any?

19   A.   At, depending on time, I might be able to

20   remember a few.   11:40:00

21   Q.   Okay. Do you see down at the bottom of

22   the page, the heading, summary?

23   A.   Yes.

24   Q.   Do you know whether you drafted that

25   summary?   11:40:10

                                                   Page 92

1 Facebook server stored as a ▮▮▮▮▮▮▮▮▮▮▮▮   02:22:01

2   MR. CHORBA: Objection. Vague as to time.

3   THE WITNESS: It depends on the time period.

4 BY MR. CARNEY:

5   Q.   '09 through 12.   02:22:16

6

7

8

9

10   02:22:55

11

12

13   Q.   You said --

14   A.   Sometimes.

15   Q.   You said that on what occasions would that 02:23:09

16 happen. I'm trying to tackle your use of the word,

17 sometimes.

18

19

20   Q.   What occasions?   02:23:22

21

22

23

24

25   02:23:38

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1   value, or not at all.   02:23:42

2   Q.   Are there any other circumstances, other

3   than █████████████   that a ████████ould not

4   be created following the creation of a ████████████

5   ██████████████   02:23:55

6   A.   So, you mentioned that the ████████████

7   was created. The ████████   is not always

8   created. It's ████████

9   Q.   Oh.

10   A.   It can be ████████   02:24:07

11   Q.   In what circumstances is it ████████?

12   A.   In the general case, ████████████████

13   ██

14   Q.   And you testified a moment ago that a

15   ████████████████████████████   correct?   02:24:31

16   A.   ████████████████████

17   Q.   ████████████████████

18   A.   This is the ████████████████

19   Q.   And what document are you looking at?

20   A.   I'm looking at Exhibit 14.   02:24:47

21   Q.   And the, I'm sorry, the ████████████

22   ████████ is that what you said?

23   A.   Yes. If you look from, on the left, it's

24   maybe the, halfway down the page.

25   Q.   I see it. And there is a string of 17   02:25:04

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1	Q. And what are the circumstances that may	03:33:06
2	have caused -- strike that question.	
3	If the user did not have JavaScript	
4	enabled, would a ███████████ have been created?	
5	A. No.	03:33:30
6	Q. Does that mean that no ██████████ would	
7	have been created?	
8	A. Yes.	
9	Q. Does a ███████████ have to come before	
10	the ████████	03:33:44
11	MR. CHORBA: Objection. Vague as to time.	
12	THE WITNESS: Do you mean a ██████████ would	
13	never have, would not have to exist for a ████████	
14	to exist?	
15	BY MR. CARNEY:	03:34:09
16	Q. In the context of URLs embedded in private	
17	messages between 2010 and 2012, would a ██████████	
18	would an ███████████ have to exist prior to the	
19	creation of an ████████	
20	A. If, are we still under the premise that	03:34:26
21	the user has JavaScript enabled?	
22	Q. JavaScript is enabled.	
23	A. Okay. There must be an ██████████████	
24	before there is an ██████████ at any stage.	
25	Q. At any stage.	03:34:41

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1   A.   Yes.   05:56:21

2   Q.   What is it?

3   A.   It is the ████████████████████████

4   ██

5   Q.   What is in the ████████████ on a   05:56:43

6   ████████████ And I'm looking at the second line

7   there of the second paragraph.

8   MR. CHORBA: Objection. Vague as to time.

9   THE WITNESS: It does depend on time.

10 BY MR. CARNEY: 05:57:02

11   Q.   Let's start with January 24, 2012.

12   A.   The ████████████ on a ██████████ ere

13 refers to the ████████████████, and that was the

14 ████████████████████████████████ previously talked

15 about, so, Exhibit 14?   05:57:17

16   Q.   Uh-huh. Who is the best person to talk to

17 about the creation of source code for ████████

18   MR. CHORBA: Objection. Vague as to, best.

19 BY MR. CARNEY:

20   Q.   Most knowledgeable.   05:58:14

21   MR. CHORBA: Answer, if you know.

22   THE WITNESS: It depends on the time period in

23 question.

24 BY MR. CARNEY:

25   Q.   How about 2010 through 2012?   05:58:21

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1   I, the undersigned, a Certified Shorthand

2 Reporter of the State of California, do hereby

3 certify:

4   That the foregoing proceedings were taken

5 before me at the time and place herein set forth;

6 that any witnesses in the foregoing proceedings,

7 prior to testifying, were duly sworn; that a record

8 of the proceedings was made by me using machine

9 shorthand which was thereafter transcribed under my

10 direction; that the foregoing transcript is a true

11 record of the testimony given.

12   Further, that if the foregoing pertains to the

13 original transcript of a deposition in a Federal

14 Case, before completion of the proceedings, review

15 of the transcript [X] was [ ] was not requested.

16   I further certify I am neither financially

17 interested in the action nor a relative or employee

18 of any attorney or party to this action.

19   IN WITNESS WHEREOF, I have this date subscribed

20 my name.

21

22 Dated:10/9/15

23

24   <%signature>

                      CHRIS TE SELLE

25   CSR No. 10836

In the Matter of: *Campbell et al. v. Facebook, Inc.*
Case No. 13-CV-05996-PJH

Date of deposition: September 25, 2015

Witness: Ray He

Reason codes:

1.   To clarify the record.
2.   To conform to the facts.
3.   To correct transcription errors.

Page	Line	Reads	Should Read	Reason Code
13	1	A. Master of engineering, and computer science and electrical engineering.	A. Master of Engineering of Computer Science and Electrical Engineering.	3
28	12	Q. Is ▮ A. No. ▮	▮	1
29	5	Q. And is the ▮ A. I don't know for sure.	Q. And is the ▮	1
30	7	▮	▮	3
32	7	A. A synonym for ▮	A. A browser for the	1
39	22	I don't believe I worked directly on messages product ever.	I don't believe I worked directly on the messages product ever.	3
42	13	A. Is either a, I think he may have been an interim product manager. Q. Do you know what project he was the interim product manager for?	A. Is either a, I think he may have been an Intern Product manager. Q. Do you know what project he was the Intern Product manager for?	3
52	25	A. I think, I believe I referred to it as ▮ with a space.	A. I think, I believe I referred to it as ▮ with a space.	3

53	1	Q. And does [redacted] or some successor to that product exist today? A. Yes.	Q. And does [redacted] or some successor to that product exist today? A. Yes.	3
53	9	Q. And is [redacted] reflected in the [redacted] today? A. I don't believe so.	Q. And is [redacted] reflected in [redacted] today? A. I don't believe so.	3
65	19	A: An [redacted]	A: An [redacted]	3
70	25	A. If I said Mark Kinsey was an engineer, I believe he was the interim product manager.	A. If I said Mark Kinsey was an engineer, I believe he was the Intern Product manager.	3
72	1	A. It's -- acronym?	A. It's an acronym.	3
79	19	Q. And then you said [redacted] A. Yes.	[redacted]	1
92	16	[redacted]	[redacted]	1
93	21	Q. Is M. Kinsey, Mark Kinsey? A. Yes.	Q. Is mkinsey, Mark Kinsey? A. Yes.	3
97	17	although we may have had an interim name of [redacted]	although we may have had an internal name of	3
101	8	A. It is not a tool in the same sense that it is not	A. It is not a tool in the same sense that it is not an	3
102	2	[redacted] hat we have been talking about for the last five minutes?	[redacted] that we have been talking about for the last five minutes?	3
120	25	to avoid risk of identifiable information per, I think, I. Shepard or M. Vernal.	to avoid risk of identifiable information per, I think, 1Shepard or mvernal.	3
128	21	Q. What is [redacted]	Q. What is [redacted]	3
129	11	A. That would be the [redacted]	A. That would be the [redacted]	3

2

APP. 1024

throughout				3
throughout				3
163	4	████████	████████	3
174	24	A. If, for instance, this was posted by a page on behalf of a page, I believe it would be different.	A. If, for instance, this was posted on behalf of a page, I believe it would be different.	3
178	23	A. No.	████████	3
179	12	A. Facebook has, with the introduction of ████████	A. Facebook has, with the introduction of ████████	3
197	14	A. No. ████████	A. No, it never becomes a ████████	1
212	3	A. It's just a, I believe, literally, in the code, it's, is,	A. It's just a, I believe, literally, in the code, it is is,	3
221	12	A. Appears to be a copy of an e-mail sent from C. Mishra to myself.	A. Appears to be a copy of an e-mail sent from cmishra to myself.	3
223	9	Q. In June of 2010, was there a ████ And I'm just reading that next bullet point there. A. That is, if you and I shared the same URL, the ████ would be the same.	Q. In June of 2010, was there a ████ nd I'm just reading that next bullet point there. A. That is, if you and I successfully shared the same URL, the ████	1
241	13	I believe he worked on it or he had input on the project leading up to FA 2011.	I believe he worked on it or he had input on the project leading up to F8 2011.	3
247	8	A. Without checking the code that this pulled it's information out of.	A. Without checking the code that this pulled its information out of.	3
251	2, 4	Q. And what is ████ It's on the second line of the middle paragraph.	Q. And what is ████ It's on the second line of the middle paragraph.	3

					3

| Q. And are you familiar with the term, |
| A. Yes. |

| | | | 262 | 23 | |

| Q. And are you familiar with the term, |
| A. Yes. |

Date: November __11___, 2015

Ray He

4

EXHIBIT DD

1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3

4   _____

5   MATTHEW CAMPBELL, MICHAEL   )

6   HURLEY, and DAVID SHADPOUR, on)

7   behalf of themselves and all   )

8   others similarly situated,   )

9   Plaintiffs,   )

10   vs.   ) Case No.

11   FACEBOOK, INC.,   ) C 13-05996 PJH

12   Defendant.   ) Volume I

13   _____)

14   HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

15

16   Videotaped Deposition of FERNANDO TORRES,

17   taken on behalf of Defendant, at the offices of

18   Lieff, Cabraser, Heimann & Bernstein, 275 Battery

19   Street, San Francisco, California, beginning at

20   8:10 a.m. and ending at 4:42 p.m., on Friday,

21   December 18, 2015, before Chris Te Selle, CSR

22   No. 10836.

23

24   Job No. 2194240

25   PAGES 1 - 307

                                        Page 1

1   economic methods are able to be applied to determine   08:36:01

2   the benefit that Facebook has derived, and, from the

3   alleged actions; and, and that would be, basically,

4   it.

5   Q.   And you said, damages can be measured.   08:36:22

6   Have you measured damages in this case?

7   A.   I haven't applied the methodology to the

8   ideal information, because it has not been produced.

9   Q.   What do you mean by, the ideal

10   information?   08:36:46

11   A.   Well, the data from Facebook.

12   Q.   Is there specific --

13   A.   That --

14   Q.   I'm sorry. Go ahead.

15   A.   That relates exactly to the alleged   08:36:56

16   actions.

17   Q.   And what are the alleged actions, as you

18   understand them?

19   A.   Well, I would summarize it in the

20   interception of private messages, and the data that   08:37:07

21   I would need is mainly the number of those messages

22   that were intercepted that contained URLs, and the

23   total number of messages for the same time periods

24   to assess the relative importance of those numbers.

25   Q.   When you say, the total number of messages   08:37:40

Page 27

1   that contained URLs, and the total number of   08:37:42

2   messages for the same periods, same time periods,

3   can you explain the comparison. I'm not sure I

4   understand the two variables there.

5   A.   Well, one of the measures that I would be   08:37:53

6   looking for would be the percentage of messages that

7   contain those URLs and that were intercepted during

8   the class period.

9   Q.   And what is your understanding of the

10   proposed class in this case?   08:38:17

11   A.   Of the definition of the class?

12   Q.   Yes, sir.

13   MR. DIAMAND: Calls for a legal conclusion.

14   You can answer, if you can.

15   THE WITNESS: Well, again, that would be in,   08:38:29

16   the actual definition of the class is either on the

17   motions or on my report. From memory, I can tell

18   you that it would be those members of Facebook that

19   sent private messages and had their private messages

20   intercepted and included URLs during the class   08:38:53

21   period.

22   BY MR. CHORBA:

23   Q.   Do you know what a URL attachment is?

24   A.   A URL attachment?

25   Q.   Yes.   08:39:08

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1   A.   I'm not sure I understand the use of that   08:39:15

2   particular combination of terms.

3   Q.   Earlier, you mentioned data from Facebook,

4   and you said that the ideal information would be the

5   number of messages containing URLs; is that correct?   08:39:30

6   A.   Not exactly. The ideal information

7   includes that information that you mentioned.

8   Q.   What else?

9   A.   There's -- well, for example, exactly the

10   advertising revenue from U.S.-based members, because   08:39:54

11   the only publicly-available information refers to

12   U.S. and Canada.

13   Q.   And would that be advertising revenue

14   attributed to the alleged intercepted messages that

15   contained URLs?   08:40:14

16   A.   No. It's advertising revenue in general.

17   Q.   Were you asked to develop a methodology to

18   identify putative class members in this case?

19   MR. DIAMAND: Objection. To the extent that

20   this addresses communications between your counsel   08:40:46

21   and you, caution you not to answer. If you can do

22   that without doing that, go ahead.

23   THE WITNESS: So, as, as an economic expert, I,

24   that falls outside of my scope.

25   BY MR. CHORBA: 08:41:04

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1 opinion in those terms. I can't, as an economist, I   08:43:04

2 can't say if it should.

3 BY MR. CHORBA:

4   Q.   So you are not offering an opinion on as

5 to whether or not a class should be certified.   08:43:15

6   A.   The matter of should is a legal question.

7 What I'm doing in the report is, assuming it is

8 certified, then it makes sense to analyze damages.

9   Q.   Okay. So, your report is triggered and

10 your opinion is triggered only if a class is   08:43:32

11 certified.

12   MR. DIAMAND: Objection.

13   THE WITNESS: Again, that would be a legal

14 opinion.

15 BY MR. CHORBA: 08:43:44

16   Q.   All right. We will do this the longer

17 way.

18   Are you offering an opinion on any of the

19 Rule 23 elements, yes or no?

20   A.   I don't even know what the Rule 23 is.   08:43:52

21   Q.   All right, let's go through them.

22   Are you offering an opinion on

23 commonality?

24   A.   I'm not a legal expert; I'm an economics

25 expert. That's not part of my scope.   08:44:00

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```
 1        A.    No.                                    08:44:41

 2        Q.    Ascertainability?

 3        A.    No.

 4        Q.    Superiority?

 5        A.    No.                                    08:44:45

 6        Q.    Manageability?

 7        A.    No.

 8        Q.    If no class is certified, will you have

 9   any expert opinions in this case?

10        MR. DIAMAND:  Objection.  Calls for a legal    08:44:54

11   conclusion.

12        THE WITNESS:  I can have the opinions.  I don't

13   know if they'll be useful.

14   BY MR. CHORBA:

15        Q.    Have you been asked to give opinions if no   08:45:01

16   class is certified in this case?  Yes or no.

17        MR. DIAMAND:  Objection.  To the extent that

18   this, again, goes into what I didn't, or with

19   counsel, didn't ask you to do, I'd caution you not

20   to answer.                                       08:45:13

21        THE WITNESS:  Right.  So, I can't tell you if,

22   if I was asked or not.

23   BY MR. CHORBA:

24        Q.    Do you know the answer whether or not your

25   opinions will be used if a class is certified?    08:45:27
```

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1   way in which there would not have been a benefit to   08:57:38

2   Facebook.

3   Q.   And what, based on your understanding of

4   the allegations in the complaint, and your

5   assumption that those allegations are true, what was   08:57:48

6   the benefit to Facebook, as you understand it?

7   A.   Well, the accumulation of the information

8   gleaned from the messages, basically, the edges

9   between members and the marketers and entities

10   identified by the URLs, is accessible through, as   08:58:12

11   part of the social graph, it's accessible to

12   Facebook in developing the targeted advertising

13   services that, that generate this revenue.

14   Q.   Thank you. That's helpful.

15   Let's assume that the information is   08:58:35

16   accessible to Facebook, as the provider of the

17   service, so, information from messages is

18   accessible.

19   A.   Uh-huh.

20   Q.   I'm asking you this as a hypothetical.   08:58:44

21   It's available, but it's not used for targeted

22   advertising.

23   Would that impact your opinions at all?

24   MR. DIAMAND: Objection. Hypothetical.

25   THE WITNESS: That would be a technical   08:58:58

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1   Q.   Does your opinion that there were, that   09:01:27

2   there's a methodology to determine damages hinge on

3   whether or not the information resulted in a revenue

4   generating activity for Facebook?

5   MR. DIAMAND: Objection.   09:01:37

6   THE WITNESS: So, my methodology determines the

7   benefit to Facebook from a specific action, and

8   that's, that's what it refers to, the alleged

9   action.

10   BY MR. CHORBA: 09:02:00

11   Q.   Why doesn't it examine, your methodology

12   examine, instead of examining benefit to Facebook,

13   why doesn't it examine detriment to the putative

14   class?

15   MR. DIAMAND: Objection. Calls for a legal   09:02:12

16   conclusion.

17   THE WITNESS: So, my report and methodology

18   that I developed was asked to analyze the benefits

19   to Facebook, so that's, so, it doesn't calculate the

20   detriment to the class members, or the potential   09:02:31

21   class members, because it wasn't meant to.

22   BY MR. CHORBA:

23   Q.   So, you have not developed a methodology

24   to calculate damages to putative class members.

25   MR. DIAMAND: Objection.   09:02:49

                                                           Page 48

1   THE WITNESS: That, that was not my task, no.   09:02:50

2   BY MR. CHORBA:

3   Q.   If you can turn to paragraph 7, I'm going

4   to bounce back a little bit, and I'll show you other

5   documents today, but let's keep this one handy.   09:03:04

6   This is Exhibit 1 for a reason. And, if you look at

7   paragraph 7, Mr. Torres, and it carries over from

8   pages 2 to 3, you state there in your introduction

9   assignment and summary of conclusions, under that

10   heading, you say, the plaintiffs' consolidated   09:03:23

11   amended class action complaint, the CAC, alleges

12   that Facebook utilizes information surreptitiously

13   gathered from purportedly private correspondence

14   sent between Facebook users and uses that

15   information in a number of ways, including, and then   09:03:40

16   it goes on, A, B, C.

17   Did I read that correctly?

18   A.   Yes.

19   Q.   And you assumed, again, this is a place

20   where you assume the specific allegations in the   09:03:50

21   consolidated amended complaint were true; is that

22   correct?

23   A.   Yes.

24   Q.   If we go to A, so, if we flip to page 3,

25   and, again, this is one of the uses in the complaint   09:04:06

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1 report. If in the future no class is certified, I   09:52:15

2 don't know what happens. The future is unknown to

3 me.

4 BY MR. CHORBA:

5   Q.   You'd have to conduct a fresh analysis at   09:52:23

6 that point, is that what I'm hearing?

7   A.   I don't know.

8   MR. DIAMAND: Objection.

9   THE WITNESS: I don't know what I would do.

10 BY MR. CHORBA: 09:52:51

11   Q.   Have you ever used Facebook?

12   A.   Yes.

13   Q.   Are you currently a member of Facebook?

14   A.   Yes.

15   Q.   How long have you had a Facebook account?   09:53:03

16   A.   I opened my account around 2009.

17   Q.   And has it been active since then?

18   A.   Well, I checked yesterday, it was still

19 active, so it hadn't been cut off.

20   Q.   You never, you never intentionally closed   09:53:25

21 your account?

22   A.   No.

23   Q.   That was good.

24   Have you ever sent a Facebook message?

25   A.   I think I have.   09:53:46

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1   Q.   Do you recall whether or not you ever sent   09:53:48

2   a Facebook message with a URL in it?

3   A.   No, I don't think so.

4   Q.   So I assume, then, you never sent a

5   message with a URL attachment?   09:54:01

6   MR. DIAMAND: Objection.

7   THE WITNESS: No. So, one precludes the other.

8   BY MR. CHORBA:

9   Q.   Do you remember if you sent more than one

10 Facebook message containing a URL?   09:54:15

11   A.   As I said, I haven't sent a message

12 containing a URL.

13   Q.   Oh, I'm sorry. I misunderstood you.

14   Is it possible you did, and you just

15 forgot, or are you pretty confident you didn't?   09:54:27

16   A.   I'm pretty confident I didn't.

17   Q.   Approximately how many Facebook messages

18 in total have you sent in your life?

19   A.   I think it's in the order of two or three.

20   Q.   Have you ever received a Facebook message? 09:54:45

21   A.   Yes.

22   Q.   Do you recall approximately how many

23 you've received?

24   A.   One.

25   Q.   One. Did that Facebook message contain a   09:54:57

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1   Which records are you referencing there?   10:24:47

2   A.   So, I would expect class membership to be

3   identifiable, based on Facebook's records as to what

4   messages were sent, what messages could have been

5   intercepted or not. That's where the class   10:25:03

6   membership identification would belong.

7   Q.   And are you offering an opinion in this

8   case that class membership is identifiable and

9   ascertainable based upon Facebook's records?

10   MR. DIAMAND: Objection.   10:25:19

11   THE WITNESS: To the extent that's a technical

12   issue as to what records to look at to identify the

13   membership in the class, that's not, that's outside

14   of my scope.

15   BY MR. CHORBA: 10:25:33

16   Q.   So, are you assuming that class membership

17   is identifiable and ascertainable based upon

18   Facebook records, or are you opining that?

19   A.   I'm considering that that is something

20   that will happen when the class is certified, if it   10:25:46

21   is.

22   Q.   And so it would occur after certification?

23   MR. DIAMAND: Objection.

24   THE WITNESS: I would expect that formal class

25   membership would be determined once the definition   10:26:00

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1	advertising services to marketers.	10:31:52
2	Q. What do you mean by, marketers?	
3	A. In this report, I mean by marketers the	
4	same thing that Facebook defines as marketers, which	
5	are their clients, the people responsible for	10:32:10
6	advertising, companies, entities, organizations, and	
7	whether they are direct entities or agencies in the	
8	advertising market.	
9	Q. Do you have any specific examples that you	
10	can give?	10:32:31
11	A. Well, other than an ad agency or a	
12	specific company, like Coca Cola.	
13	Q. And why did you use this term, this	
14	defined term, Marketers, with a capital M?	
15	A. Because it's not any marketer. It's	10:32:53
16	advertisers in Facebook, so it's a shorthand	
17	notation for that.	
18	Q. Would you include, it says here, third	
19	party websites, parentheses, marketers.	
20	Is there, are there other, I guess,	10:33:10
21	entities or individuals that fall under the term	
22	marketers that aren't third party websites?	
23	A. The limitation is the other way around.	
24	There are other third party websites that are not	
25	marketers in the sense of Facebook.	10:33:26

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1   private messages.   10:43:45

2   Q.   And do you lay out these calculations

3   anywhere in your report?

4   A.   Well, in the body of the report, in

5   section 4, I lay out the methodology and the   10:43:57

6   beginnings of the calculations that can be done with

7   publicly-available information. I haven't finalized

8   the calculations, because I haven't received the

9   precise data from Facebook.

10   Q.   And you said, in section 4 of your report. 10:44:23

11   Would that be both sections A and B, or is

12   it one specific section?

13   A.   I would say it's probably both.

14   Q.   And you said you haven't finalized the

15   calculations.   10:44:36

16   What do you mean? You haven't actually

17   calculated the amount in the aggregate, or for a

18   specific person?

19   MR. DIAMAND: Objection. Vague.

20   THE WITNESS: Right. So, I have not calculated   10:44:47

21   a final number, and definitely not a final number

22   per person. The information has not been provided,

23   and I haven't made any estimates or assumptions, in

24   addition, to try to simulate or substitute for that

25   information.   10:45:12

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1    BY MR. CHORBA:                                    10:45:19

2        Q.   Does your methodology account for

3    potential benefits to class members from the

4    challenged practices?

5        A.   No.  I mean, in calculating the benefits    10:45:36

6    to Facebook, I don't consider benefits to somebody

7    else.

8        Q.   And both methodologies in section 4 A and

9    4 B measure benefit to Facebook?

10       A.   Correct.                                  10:45:49

11       Q.   So at no point, well, let me ask you, have

12   you attempted to calculate detriment to the putative

13   class?

14       MR. DIAMAND:  Objection.

15       THE WITNESS:  As I said, that, that's not part    10:46:09

16   of my scope.  My scope is to analyze the benefits to

17   Facebook.

18   BY MR. CHORBA:

19       Q.   Have you been asked to prepare a rebuttal

20   opinion to any report prepared by Facebook?          10:46:29

21       A.   No.

22       Q.   Circling back, just in front of you,

23   paragraph 11 B, is your definition of marketers

24   limited to third party websites that have a like

25   button social plugin installed?                      10:46:50
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 1    in the disclosures.                              10:59:54

 2           Yahoo does a bad job about it, because

 3    they really don't have enough information about the

 4    person, so it's not well-targeted.  I don't know

 5    that there is litigation involving any of those two.  11:00:11

 6        Q.   And -- okay.  If Twitter were to engage

 7    practices, in practices similar to those alleged in

 8    this case, would you change your practices with

 9    using Twitter?

10        A.   My personal view is that you do have to    11:00:35

11    read what the privacy policy is, and you have to

12    know to expect that if you are not paying for a

13    product, you are the product.

14        Q.   If we look, I'm going to flip back to the

15    report, paragraph 18.  It's a lengthy paragraph, but  11:01:13

16    I'd like to focus on the last two sentences, so it

17    carries over from pages 7 to 8.  Let me know when

18    you are there.  I will just read it, to focus you.

19    It's on line 18, on page 7.  Facebook's competitive

20    advantage stems from the power of leveraging the    11:01:36

21    deep targeted knowledge available from its unique

22    access to an increasingly complete and computerized

23    social network, including by tracking users beyond

24    the Facebook.com website.  Consequently, the two

25    activities providing online social networking       11:01:54
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1   Q.   But if the claims are not correct, would   11:36:47

2 you have any basis for stating that either Exhibit 4

3 or Exhibit 3 have any information gleaned from

4 messages on Facebook?

5   MR. DIAMAND: Objection.   11:37:01

6   THE WITNESS: Again, these documents are

7 marketing documents from Facebook. This is designed

8 to sell the product and to actually develop the

9 product. This is designed to market Facebook

10 advertising as a medium to other marketers who are   11:37:16

11 looking into online advertising.

12   What you are asking is about the technical

13 information that would allow somebody to make a

14 technical determination of whether that specific

15 information that is gleaned from the private   11:37:32

16 messages eventually makes its way to one or more

17 advertising campaigns.

18 BY MR. CHORBA:

19   Q.   And what kind of technical information

20 would you need to make that determination?   11:37:42

21   MR. DIAMAND: Objection.

22   THE WITNESS: I'm not looking for technical

23 data to do a technical analysis. What I would need

24 is a technical expert to determine that, in fact, at

25 least in some way, the information gleaned from the   11:37:57

1   messages is usable to Facebook.   11:38:02

2   BY MR. CHORBA:

3   Q.   You stated earlier that the technical

4   information has not been produced.

5   A.   To my knowledge.   11:38:10

6   Q.   Do you know whether it's been produced,

7   and you just haven't seen it, or it's your

8   understanding it hasn't been produced at all?

9   MR. DIAMAND: Objection.

10   THE WITNESS: My understanding is, it hasn't   11:38:19

11   been produced beyond maybe what pertains to the

12   named plaintiffs, but, information about the class,

13   I don't think it has been produced.

14   BY MR. CHORBA:

15   Q.   What about source code? Are you aware if   11:38:33

16   source code has been produced in this case --

17   A.   I'm not aware.

18   Q.   -- more than 10 million lines of source

19   code?

20   A.   I'm not aware of that, because it's not my 11:38:40

21   task to analyze the source code.

22   Q.   So, do you have any factual basis to state

23   that either, that any of the targeted options in

24   Exhibit 3 or Exhibit 4 contain information gleaned

25   from Facebook messages?   11:38:58

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1   basis to state that objects and associations are   12:53:33

2   created from Facebook messages.

3   A.   Again, the factual basis would be

4   technical data, technical information that is not in

5   my scope to analyze. From an economic perspective,   12:53:45

6   if it's information that is made part of Facebook's

7   resources, it's information that is available to

8   use.

9   Q.   And if Facebook does not create objects

10 and associations based on URLs in Facebook messages,   12:54:04

11 would that impact your damages methodology?

12   A.   Well, to the extent that that hypothetical

13 situation would indicate that there is no, or that a

14 particular course of action or cause of a litigation

15 might not be sustained, my report would not be   12:54:30

16 relevant to that particular hypothetical.

17   Q.   Particular hypothetical, again, if it were

18 not true, you are saying your report wouldn't come

19 in in that instance?

20   MR. DIAMAND: Objection. Calls for a legal   12:54:50

21 conclusion.

22   THE WITNESS: Right. So, in, under those

23 circumstances that are in your hypothetical, I don't

24 know, I can't know if my report would be either

25 appropriate, or used, or anything else.   12:55:04

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1   is, Facebook in integration is more effective than   01:06:17

2   it really is.

3   Q.   Why does it make it appear that the

4   integration is more effective than it is?

5   A.   Because the like count is increasing,   01:06:31

6   despite the fact that the person is not clicking on

7   the like button on the third party website.

8   Q.   And does that opinion depend on how much

9   the like counter is increasing, based on messages?

10   MR. DIAMAND: Objection.   01:06:46

11   THE WITNESS: Not necessarily.

12   BY MR. CHORBA:

13   Q.   Why not?

14   A.   Because it depends, it would depend on

15   exactly what the proportion of the enhancement is.   01:06:55

16   During some, at some point, according to some of the

17   experiments reported on The Wall Street Journal, the

18   like count was increasing twice, or, or, in a

19   two-to-one ratio, to including the URLs in the

20   messages.   01:07:20

21   So, if that happens to a website, a third

22   party website that has like counts organic like

23   counts of, in the order of one or two, then it's a

24   100 percent increase.

25   If it happens to Coca Cola, and they   01:07:34

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1   already have 500,000 likes on their third party   01:07:36

2   website, that is a miniscule less than a 1 percent,

3   so, they won't be as influenced or as impressed by

4   the increase.

5   Q.   And if you look -- thank you.   01:07:54

6   If you look at 34 B, it states, benefits

7   from artificially increasing the like count on third

8   party websites using Facebook's social plugins.

9   What did you mean by, artificially

10   increasing the like count on third party websites?   01:08:10

11   A.   Well, because the idea that the, or the

12   description of the counter next to the like button

13   on the third party website is that it represents the

14   number of times people have clicked on that button.

15   And it was being increased not because   01:08:23

16   people were doing that action of clicking there,

17   they were referencing the URL in a private message.

18   Q.   What if someone sent a URL in a Facebook

19   message, knowing and intending that the like count

20   would be increased? Would you consider that to be   01:08:43

21   an artificial increase of the like count?

22   A.   Well, that could stand as a description of

23   what the experiments reported in The Wall Street

24   Journal article were, that they were noticing that,

25   and the artificial nature of it is that you are   01:09:02

Page 175

1   the like count.   01:16:16

2   A.   Uh-huh.

3   Q.   If somebody is paid to click on the like

4   button on a third party website, would you consider

5   that to be an artificial increase of the like count? 01:16:23

6   A.   In that situation, an artificial increase

7   is something that is not a click by somebody who's

8   interested in the brand.

9   Q.   How about if someone, think of another

10   example, someone is interested in clicking on that   01:16:40

11   brand, but not maybe in the way of developing an

12   affinity or support of that brand. So, let's use an

13   example of a contest. A local hairdresser offers a

14   contest. If you like my page, you get a free

15   haircut this week, and 100 people enter, only one   01:16:57

16   person gets the, gets the, and they enter by

17   clicking on the like button.

18   A.   Uh-huh.

19   Q.   Would those be artificial increases in the

20   like count?   01:17:07

21   MR. DIAMAND: Objection. Hypothetical.

22   THE WITNESS: In that hypothetical situation, I

23   think you would consider, or, economically, you are

24   still considering that it's artificial, that it's a

25   misuse of the original intent of the likes, of the   01:17:19

                                              Page 181

1   like count.   01:17:23

2   I think that's what's behind Facebook changes

3   to just using like as the operating verb, and trying

4   to make it more nuanced, going forward.

5   BY MR. CHORBA: 01:17:37

6   Q.   What are you referring to there? I'm

7   sorry, I lost you. When you said it's --

8   A.   Well, lately, Facebook has hinted at

9   introducing other alternatives for people to express

10   their response or reaction to posts and things like   01:17:49

11   that. I mean, it's always been a curious thing that

12   if somebody posts a death or reports a death in the

13   family, that the summary way to show your, your

14   awareness of the message, or anything else, is to

15   click on like.   01:18:14

16   Q.   I follow you, but, for now, we're just

17   dealing with this case, and it's the like, and I'm

18   trying to understand.

19   So, in that contest hypothetical, you

20   would view that as an artificial like, correct, from   01:18:23

21   an economics perspective?

22   A.   Within the context of that hypothetical,

23   yes.

24   Q.   And, just to be clear, if the web page had

25   a like button, but no counter next to it --   01:18:37

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1   Q.   Mr. Torres, the reporter's just handed you   01:27:14

2 a document that bears the title, we've marked it as

3 Exhibit 5, it bears the title Facebook Q2 2015

4 Results.

5   Can you please take a look at that.   01:27:23

6   A.   Yes.

7   Q.   And is this, have you seen this document

8 before?

9   A.   Yes.

10   Q.   Is this the document upon which you relied   01:27:31

11 for purposes of determining that $1.593 billion

12 figure?

13   A.   Yes.

14   Q.   Was there any other material you relied

15 upon?   01:27:41

16   A.   For that number, no.

17   Q.   Precise. I appreciate it. And, more

18 specifically, as stated in footnote 66, you took the

19 numbers from slide 9 of this Exhibit 5 --

20   A.   Uh-huh.   01:27:54

21   Q.   -- is that right?

22   A.   Yes.

23   Q.   If you can turn to slide 9. Can you just

24 briefly walk me through how you came up with that

25 number.   01:28:03

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1   A.   So, the four numbers in the dark portion   01:28:05

2   of the columns of the bars, those are the revenue

3   numbers for the U.S. and Canada region.

4   Q.   So that's for Q3 2014 through Q2 2015,

5   those four columns; is that right?   01:28:28

6   A.   Yes.

7   Q.   So, the numbers, let's just read them off,

8   so we're clear: 1514, 1864, 1739, and 1967?

9   A.   Yes.

10   Q.   And, what, did you add those together?   01:28:41

11   A.   Yes, and then average them.

12   Q.   And how did you average them?

13   A.   Divide by four.

14   Q.   And that's how you came up with the

15    $1.593 billion figure?   01:28:53

16   A.   No. Like it says there, I did another

17   adjustment to, in an attempt to exclude the data

18   from Canada, so I applied 89.96 percent to take into

19   account of the ratio of Canadian population to U.S.

20   population.   01:29:12

21   Q.   Thank you. And what was the ratio that

22   you used there, what was the data? It was Census

23   data?

24   A.   Yes.

25   Q.   Is it commonly accepted economic practice   01:29:25

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1   to rely on Census data to back out Canadian revenue   01:29:27

2   versus U.S. revenue?

3   A.   Well, in the absence of the right

4   information, because Facebook is not reporting just

5   the U.S. information, so, in the absence of that   01:29:40

6   information, which I believe was asked for, one way

7   to estimate it is to assume that the penetration

8   rate is the same in the U.S. and Canada, and that

9   also means that the ratio population is the same as

10   the ratio of users.   01:30:03

11   Q.   But you said that's one way.

12   Is that the best way, in your experience,

13   in lieu of the breakdown from --

14   A.   That's a, that's a, I believe, a

15   reasonable approximation, because one of the   01:30:21

16   underlying reasons that companies oftentimes

17   conflate the U.S. and Canada is that the populations

18   are relatively similar for these purposes, so they

19   have the same penetration, they have the same

20   attitudes. For the most part, they share a   01:30:44

21   language, and --

22   Q.   Have you relied on -- sorry.

23   A.   -- it's a small percentage.

24   Q.   I didn't mean to interrupt you, sir.

25   Have you relied on Census data before to   01:30:55

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1   make this type of breakdown in giving an expert   01:30:57

2   opinion or making a valuation?

3   A.   Yes.

4   Q.   And then you deducted expenses of

5   40.75 percent; is that correct?   01:31:08

6   A.   Yes.

7   Q.   Why did you deduct expenses of

8   40.75 percent?

9   A.   Because I want to determine profits, not

10   total revenue.   01:31:18

11   Q.   Do you know the actual expenses?

12   A.   The actual expenses are not disclosed by

13   user geography.

14   Q.   Is it possible that this understates

15   Facebook's expenses?   01:31:29

16   A.   Because it's an average for the overall

17   company, it's just as likely to understate it as to

18   overstate it.

19   Q.   But it's possible it understates the

20   expenses, correct?   01:31:42

21   A.   A lot is possible.

22   Q.   But it is possible?

23   A.   Well, strictly speaking, there are going

24   to be expenses that cannot be allocated to either

25   one of the geographies, so, in the end, even if we   01:31:58

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1   had full access to the information, an apportionment   01:32:07

2   was going to be necessary.

3   Q.   And on slide 9, you understand that slide

4   9 concerns revenue by user geography, as noted at

5   the top of the page, correct?   01:32:25

6   A.   Correct.

7   Q.   And do you understand that the term,

8   revenue, for purposes of slide 9, includes more than

9   just revenue generated by advertising?

10   A.   Yes. Did --   01:32:43

11   Q.   Look at slide 8.

12   A.   Yeah, so I probably, so, there may have

13   been a mistake in the, in the page number, because I

14   used most of these slides, but the idea is

15   advertising revenue, which is on slide 10.   01:33:09

16   Q.   So, you intended to use the figures in

17   slide 10, rather than the figures in slide 9?

18   A.   I think I, that's what I used in the

19   calculations. I would have to double-check.

20   Q.   Well, I will represent to you, we did the   01:33:31

21   math, and the figures are based on slide 9. If you

22   want to take a break and do the calculations again,

23   they are based on slide 9, as cited in footnote 66.

24   So, is this a mistake in your report?

25   MR. DIAMAND: Just a minute.   01:33:48

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1   THE WITNESS: Well, it's an error in the   01:33:49

2 approximation.

3 BY MR. CHORBA:

4   Q. And that would be an error in the

5 approximation on page 18, table 1?   01:33:52

6   A. Yes. It might have adjusted a little bit,

7 because advertising revenue is 90-some percent of

8 the total revenue, so the error, if any, is less

9 than 10 percent.

10   Q. What if I told you the error was   01:34:10

11 $1.2 billion?

12   Is that a little bit, in your opinion?

13   A. That would be incorrect.

14   Q. Why?

15   A. I don't think there's a way that ad   01:34:20

16 revenue, which, for example, just to take the actual

17 numbers, in the second quarter of '15, advertising

18 revenue from the U.S. and Canada is 1826, and total

19 revenue is 1967.

20   Q. Well, help me understand --   01:34:38

21   A. That's a difference of 100 million.

22   Q. Look on table 1.

23   Which figure there is populated by your

24 error in relying on slide 9 instead of slide 10?

25 Which number is that?   01:34:50

1   A.   I don't understand the question.   01:34:53

2   Q.   You said that you used slide 9 in your

3   report. You intended to use slide 10, which, if we

4   were looking at, and, if you can turn to page 18 in

5   your report, I'm just trying to figure out where   01:35:04

6   this impacts your report. Table 1, which figure on

7   this table is impacted by using slide 9 instead of

8   slide 10? Is it the annual profit column?

9   A.   Yes.

10   Q.   And would it be each, each instance   01:35:19

11   3.776 billion is used?

12   A.   Well, yes, although those would be

13   discounted at different rates.

14   Q.   Correct, but, if you add them up over

15   eight years, would you be surprised that the net   01:35:35

16   impact is $1.27 billion difference? You have

17    $15 billion, and it's 13.8 billion.

18   A.   But you can't add the numbers in that

19   column.

20   Q.   Which column?   01:35:55

21   A.   The column of annual profit.

22   Q.   Oh, I understand. You are going to fix

23   the annual profit column. It'll be the same number.

24   We'll come back to that, why you are using the same

25   number based on just one quarter, but it would be   01:36:06

APP. 1057

1   the same number, once corrected, for the whole   01:36:08

2   column, correct?

3   A.   Yes.

4   Q.   Okay. And then you'd multiple it by the

5   discount factor, and you'd get the discounted value.   01:36:15

6   A.   Right.

7   Q.   But, if the annual profit number comes

8   down 10 percent each year, the discounted value

9   column is going to come down, as well, correct?

10   A.   Right. So, the ratio in which it would   01:36:27

11   come down would be in the ratio of, roughly, the

12   difference is 125 million here, so, 125 in 1800.

13   Q.   In one quarter.

14   A.   Yes, but the ratio is, is, happens in all

15   four quarters.   01:36:47

16   Q.   Mr. Torres, didn't you add up four

17   quarters, then divide by four, then multiply by

18   89 percent?

19   A.   That's an average, so that ratio, the

20   ratio is the same across the four quarters,   01:36:56

21   approximately the same, so that ratio is the ratio I

22   would expect the numbers to come down.

23   Q.   But what would you expect the total value

24   of $15 billion in --

25   A.   I would have to --   01:37:14

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1   (The following portion was read: 01:37:14

2   Q. But what would you expect the total

3   value of $15 billion --)

4   Q.   -- in table 1, what would you expect that

5   to come down to?   01:37:17

6   A.   I would have to revise the calculations to

7   make a determination.

8   Q.   And I've done that.

9   And would it surprise you that it's

10   $1.27 billion off?   01:37:24

11   MR. DIAMAND: Objection.

12   THE WITNESS: But it's not, you are not talking

13   about 1.27 in the quarterly number; it's 1.27 in

14   the --

15   BY MR. CHORBA: 01:37:33

16   Q.   That's what I said, sir.

17   A.   -- in the capital amount.

18   Q.   In the total discounted value, total value

19   at the end, where it's 15 million, that's

20   1.27 million overstated, correct?   01:37:41

21   A.   So, the ratio is the same, 1/16th,

22   approximately.

23   Q.   Do you think a $1.27 billion calculation

24   error is insignificant?

25   A.   It depends on its relation to the total,   01:37:54

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1   so that's why I'm saying it's a 1 in 16 error.   01:37:57

2   Q.   But it's still an error.

3   A.   It's an error in the calculation, if what

4   you are saying is correct, because --

5   Q.   Well, is what I'm saying incorrect?   01:38:11

6   What's incorrect about it? We just went through

7   slide 9 versus 10.

8   A.   I didn't say it was incorrect. I said, if

9   it is correct.

10   Q.   Well, okay, Mr. Torres, which number is   01:38:21

11   correct? Is it, should the figures be based on

12   slide 9, or slide 10?

13   A.   The calculations should have been based on

14   slide 10. I thought I had done it on the basis of

15   slide 10.   01:38:36

16   MR. CHORBA: Do you want to take a break and

17   look at, do the quick calculation to test? We've

18   done it, but I need his testimony on what's right,

19   so we can, let's take a break. I'm not using my

20   allotted time for him to recalculate his table.   01:38:48

21   Shall we go off the record?

22   MR. DIAMAND: Okay.

23   THE VIDEOGRAPHER: It is 1:38. We are going

24   off the record.

25   (Recess: 1:38 p.m. to 1:49 p.m.)   01:38:57

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 1            THE VIDEOGRAPHER:  We are back on the record.   01:49:35

 2     It is 1:49.

 3     BY MR. CHORBA:

 4         Q.   Mr. Torres, when we broke, we were looking

 5     at table 1, and I think you'd left to just           01:49:41

 6     double-check the calculations.

 7              Do you have any corrections to make to

 8     that table?

 9         A.   Well, like I, I confirmed that the

10     adjustment that would need to be made to the number  01:49:54

11     derived on line 18 of paragraph 39 is a reduction in

12     the order of 9.17 percent that affects the total

13     value determined in table 1.

14         Q.   So --

15         A.   So it's within the order of magnitude that  01:50:14

16     I thought.

17         Q.   Let's put aside the order of magnitude of

18     the error.  What is the correct number?  It says on

19     line 18, 3,776,000,000 per year.

20              What's the correct number?                  01:50:26

21         A.   Well, I didn't make a note.  It's

22     9.17 percent less than this.

23         Q.   What's the correct number in paragraph 39

24     in your report?

25         A.   It's slightly less than this by            01:50:41
```

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1   9.17 percent.   01:50:43

2   Q.   You are not going to tell me what the

3   number is?

4   A.   I don't have the number at hand.

5   Q.   What did you calculate when we left? What   01:50:47

6   did you do?

7   A.   I used the spreadsheet to calculate the

8   number. I did the sum of the numbers that I should

9   have used.

10   Q.   Can you bring that spreadsheet in so we   01:50:57

11   can get the correct numbers.

12   MR. DIAMAND: Hold on. I don't think we

13   realized that what you were expecting was the

14   corrected number for line, or line 18 --

15   MR. CHORBA: It is. Let's break and get it.   01:51:11

16   MR. DIAMAND: We will provide that. That was

17   not what our understanding was. I'm sorry.

18   MR. CHORBA: Okay. Fair enough. That's fine.

19   Let's break. I should have been clear. We want the

20   corrected figures in the report.   01:51:17

21   MR. DIAMAND: Okay.

22   THE VIDEOGRAPHER: Okay. It's 1:51. We're

23   going off the record.

24   MR. DIAMAND: Hold on.

25   MR. BATES: Just so we don't go off the record   01:51:26

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```
 1    again, I just want to make sure we get exactly what    01:51:28

 2    you want, so --

 3         MR. CHORBA:  Yeah.  Mr. Bates --

 4         MR. BATES:  We're trying to --

 5         MR. CHORBA:  I understand.                         01:51:36

 6         MR. BATES:  -- provide you with what you

 7    wanted --

 8         MR. CHORBA:  I understand.

 9         MR. BATES:  -- the last time around.

10         MR. CHORBA:  So, paragraph, in paragraph 39 and    01:51:36

11    in table 1 on page 18, the corrected figures.

12         MR. BATES:  For every single -- okay.

13         MR. CHORBA:  Yeah.  I mean, I want the right

14    numbers so I can ask him questions today and not

15    bring him back again.                                  01:51:50

16         MR. BATES:  Do you want like all the way

17    through?

18         MR. CHORBA:  Yes.

19         MR. BATES:  Okay.

20         THE VIDEOGRAPHER:  It's 1:51.  We're going off     01:51:56

21    the record.

22            (Recess:  1:51 p.m. to 2:05 p.m.)

23         THE VIDEOGRAPHER:  We're back on the record.

24    It's 2:05.

25    BY MR. CHORBA:                                         02:05:57
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1   Q.   Mr. Torres, when we broke, you were going   02:05:57

2   to take another look at the figures cited in

3   paragraph 39, footnote 66, and table 1.

4   Do you have corrections for us?

5   A.   Yes.   02:06:06

6   Q.   Can you give those to me, please.

7   A.   Okay. So, starting in paragraph 39, at

8   the end of line 13, the advertising revenue is in

9   the order of 1,459,000,000 per quarter. And in

10   footnote 66, at the end of the second line, the four   02:06:31

11   quarters would be the four quarters between

12   July 2014 through June 2015. The correct number is

13   1,622,000,000.

14   Q.   That's in place of the 1771?

15   A.   1771. Yes. And then in line 18, at the   02:06:52

16   beginning of the line, the profit is 3,459,000,000

17   per year.

18   MR. DIAMAND: Would you permit me to make one

19   additional point, which is that there's a reference

20   to slide 9 in footnote 66.   02:07:11

21   MR. CHORBA: Thank you, Nick.

22   MR. DIAMAND: Which would be, I think, now,

23   slide 10.

24   MR. CHORBA: Thank you.

25   MR. DIAMAND: I apologize for the objection.   02:07:18

1   BY MR. CHORBA: 02:07:23

2   Q.   So, those three corrections on page 15, is

3   that all, Mr. Torres?

4   A.   Yes. And then that feeds into the table

5   1, where the annual profit numbers would be   02:07:32

6   3,459,000,000, and the discounted values in that

7   line, for the whole line, for the full column, would

8   be 2915, 2457, 2070, 1745, 1470, 1239, 1044, and

9   880, for a total of 13,820,000,000.

10   Q.   Thank you. Was that everything?   02:08:18

11   A.   Yes.

12   Q.   Thank you for doing that. I appreciate

13   it.

14   Is, you referenced earlier a spreadsheet.

15   Do you have a working sheet that has the 02:08:27

16   calculations for table 1 that you then used to

17   generate table 1?

18   A.   Yes. I have a model set up in my

19   software.

20   *RQ MR. CHORBA: Would it be possible for us to get 02:08:46

21   a copy of that, electronic copy of that model? And

22   maybe I should direct this to you, Mr. Diamand, but

23   we have, I'm slightly off, and I think it may be

24   just rounding errors on our part. I'd like to just

25   consult that with our expert, and look at the actual 02:09:00

                                             Page 204

1	formulas, just to make sure.	02:09:03
2	MR. DIAMAND: Okay, we can address that.	
3	MR. CHORBA: Thank you.	
4	BY MR. CHORBA:	
5	Q. So, setting aside the mathematical error	02:09:16
6	that we discussed, Mr. Torres, do you have any other	
7	concerns about the accuracy of the information	
8	provided in paragraph 39 on page 15?	
9	A. Not concerns. These, because these are	
10	estimates, we're still waiting for the information	02:09:34
11	that corresponds to U.S. advertising revenue. These	
12	are just my estimates of that number.	
13	So, when we get it, we'll substitute it,	
14	and there won't be any question of these	
15	calculations.	02:09:49
16	Q. You said there's U.S. advertising revenue.	
17	What information are you waiting for?	
18	A. The advertising revenue that reflects only	
19	the U.S.	
20	Q. And it's your understanding that's been	02:10:03
21	requested?	
22	A. Yes.	
23	Q. Are you assuming that all advertising	
24	revenue to Facebook is attributable to the social	
25	graph?	02:10:14

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1   that determination, that determination would   02:13:08

2   constitute a quantification of the potential overlap

3   of the calculations, so, if there is information to

4   determine that, by somebody else, I could make a

5   count of that potential overlap.   02:13:24

6   BY MR. CHORBA:

7   Q.   But in your report, as stated, you haven't

8   developed a methodology to account for that overlap?

9   A.   As the methodology states, I don't have

10   that information available.   02:13:39

11   Q.   What if an individual, the same individual

12   sent the same URL in multiple Facebook messages?

13   Would each message be accounted for

14   separately, under your damages methodology?

15   MR. DIAMAND: Objection.   02:13:58

16   THE WITNESS: The methodology depends, is

17   structured in two stages. One is to determine

18   eventually the value per link, and then I would

19   incorporate the number of links captured that fall

20   under the definition of a class.   02:14:20

21   So, it's a technical determination. I would

22   take that number from the technical analysis.

23   BY MR. CHORBA:

24   Q.   Turning back to paragraph 39, how did you

25   determine that the average cost of revenue,   02:14:34

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1   have you excluded expenses for research and   02:17:20

2   development?

3   A.   Yes. In some valuations, yes.

4   Q.   But not in all of them?

5   A.   No. It depends on what is being measured. 02:17:30

6   In some valuations, the research and development is

7   the only aspect it would take. In some, it's one

8   you would exclude, so, it depends.

9   Q.   And in, staying on slide 13 of Exhibit 5,

10   why did you pick these four quarters of Q3 2014   02:17:46

11   through Q2 2015?

12   A.   Both in the revenue and the expenses, I

13   used the last four quarters, so, the trailing 12

14   months as of the latest information that I had

15   available by the time I did the report.   02:18:02

16   Q.   Are you assuming that costs do not change

17   over time, or will not change over time?

18   A.   No. The implicit assumption is that I'm

19   using the cost structure that was prevalent on

20   average in the last, in the trailing 12 months.   02:18:15

21   Q.   If you were tasked with valuing the social

22   graph of Myspace in 2007, would you have used a

23   similar methodology as one that you've used here?

24   MR. DIAMAND: Objection.

25   THE WITNESS: Well, in that hypothetical   02:18:45

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 1    situation, I would have to, to perform a series of    02:18:46

 2    due diligence and preliminary analyses.  I'm not

 3    sure that Myspace had the same revenue model, so I

 4    would have to reconsider the revenue model then,

 5    and, to see if that is sufficient.                    02:19:06
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 6    BY MR. CHORBA:

 7        Q.    What about the discount factor?  Would you

 8    have used the same methodology to come up with a

 9    discount factor?

10        A.    Yes.  The general methodology that I use    02:19:16

11    for the discount factor is the same everywhere.

12    This is the generally accepted way of determining

13    that discount rate.

14        Q.    In table 1 on page 18, are you assuming

15    the social graph will generate the same annual       02:19:29

16    profit every year?

17        A.    Approximately, yes.  The underlying

18    assumption is that in valuing the asset, I'm not

19    considering further growth of the asset.  This is

20    just the asset as it was in, at the end of the       02:19:52

21    second quarter of 2015.

22            That asset doesn't go away.  It's an

23    asset, so it continues to generate revenue for, on

24    average, an eight year remaining useful economic

25    life.                                                 02:20:12
```

1   Q.   So at the end of paragraph 44, you say,   02:25:24

2   therefore, the impact of additional information

3   intercepted from private messages on Facebook's

4   revenue flows directly to the bottom line,

5   parentheses, profits.   02:25:34

6   What's the basis for that statement?

7   A.   The definition of profits. Profits is,

8   or, the incremental profits are the incremental

9   revenue minus incremental costs. If incremental

10   cost is zero, incremental profit is incremental   02:25:50

11   revenue.

12   Q.   And if incremental profits isn't zero,

13   then there would be a change, correct?

14   A.   Yes. If incremental costs are greater

15   than zero, then the profits would be a little lower 02:26:01

16   than revenue.

17   Q.   Thank you. I will read paragraph 45.

18   Again, I'll read it: With the relevant quantitative

19   information, I would estimate the value of the

20   enhancement to the social graph as commensurate with 02:26:16

21   the ratio of, one, intercepted URLs in private

22   messages during the class period, to two, number

23   two, the total number of links on the social graph.

24   What is the relevant quantitative

25   information that you require?   02:26:31

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1   A.   The number of intercepted URLs in private   02:26:35

2   messages during the class period, and the number of

3   links on the social graph.

4   Q.   So, it's those two numbers, one and two?

5   A.   Those two classes of numbers. The number   02:26:46

6   is different every day, so there will be a periodic

7   report during the class period.

8   Q.   And how would you determine the number of

9   intercepted URLs in private messages during the

10   class period?   02:27:01

11   MR. DIAMAND: Objection.

12   THE WITNESS: It's not my task to determine

13   that. That's a technical determination. I would

14   take it from the technical determination.

15   BY MR. CHORBA: 02:27:12

16   Q.   And if it were not possible technically to

17   determine the number of, quote, intercepted URLs,

18   would you be able to complete your analysis?

19   A.   In that situation, it would still be the

20   case that I have to rely on whatever is the   02:27:26

21   determination of what the accused activities

22   resulted in, so it would require considering a

23   different measure if intercepted URLs and private

24   messages is not the right one.

25   Q.   So, let me just make sure I understand.   02:27:46

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1   member sends the same number of messages on average   02:37:53

2   per month, for purposes of this analysis?

3   A.   No.

4   Q.   Why not?

5   A.   I didn't have to, because I didn't   02:38:01

6   consider those, that's not part of the, the analysis

7   in the report.

8   Q.   Why not?

9   A.   Because I don't have the information about

10   what, how many messages each user sent, et cetera,   02:38:14

11   how many fall into the definition of the class, and

12   I'm going to wait to get that in order to, to use

13   any information in that realm.

14   Q.   Did you undertake any analysis of the

15   number of messages that the named plaintiffs in this   02:38:32

16   case have sent?

17   A.   No.

18   Q.   Have you ever seen those figures?

19   A.   No.

20   MR. CHORBA: Let's mark the next one Exhibit 6.   02:38:43

21   (Exhibit 6 was marked for identification

22   by the court reporter and is attached hereto.)

23   MR. CHORBA: And let's do 7, while we're at it.

24   (Exhibit 7 was marked for identification

25   by the court reporter and is attached hereto.)   02:39:09

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1   organizations that contemplated hundreds and, if not   03:32:04

2   thousands, of advertising.

3   BY MR. CHORBA:

4   Q.   Which ones?

5   A.   So, for example, the Comdesk, Nielsen, and   03:32:11

6   the study, in particular, that's behind table,

7   table, table, table 3, from social code, that

8   analysis considered 5 million ads placed over, by 50

9   companies.

10   So I, I reference those kinds of studies   03:32:38

11 that cover a broad spectrum of advertisers, not any

12 one advertiser in particular.

13   Q.   And, again, that's just one survey, but

14 you didn't familiarize yourself with the practices

15 of every marketer that advertises on Facebook.   03:32:57

16   MR. DIAMAND: Objection.

17   THE WITNESS: I would think that it's virtually

18 impossible to familiarize yourself with the

19 practices of every advertisers on Facebook.

20 BY MR. CHORBA: 03:33:09

21   Q.   Agreed. Turning back to paragraph 62 in

22 your report, we'll save some time if you just keep

23 it open, because we're going to concentrate on that

24 section.

25   And, again, you didn't perform any actual   03:33:26

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1   THE WITNESS: Yes.   03:34:25

2   BY MR. CHORBA:

3   Q.   Which case?

4   A.   In the Fraley v. Facebook case.

5   Q.   Did that report ultimately provide an   03:34:31

6   estimated amount of damages to the putative class?

7   A.   If I recall correctly, I may have an

8   estimate, but I don't think I, I gave a definite

9   number, because the -- I have an estimate based on

10 broad averages based on one study that was done by   03:35:00

11 Facebook.

12   Q.   And do you have a broad estimate based on

13 averages for damages in this case?

14   A.   In this section of the methodology, no;

15 that's why I'm using the literals Y and Z.   03:35:14

16   Q.   And how about for your other portions of

17 your methodology? Do you have a rough estimate of

18 damages?

19   A.   No. I have a rough estimate of part of

20 the components of the methodology. I'm waiting for   03:35:28

21 the full information about the messages that are

22 subject to the class.

23   Q.   And what is your rough estimate of the

24 amount that you were able to calculate?

25   MR. DIAMAND: Objection.   03:35:43

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APP. 1074

1   THE WITNESS: So, I only calculated the, as an   03:35:45

2   estimate, the value of the social graph as of the

3   second quarter of 2015.

4   BY MR. CHORBA:

5   Q.   And what is that value?   03:35:56

6   A.   That's the value from table 2. Table 1.

7   Q.   That's the one that we corrected earlier?

8   A.   Yes.

9   Q.   So, $13 billion?

10   A.   13.8 billion, yes.   03:36:12

11   Q.   And have you opined on how, if that's a

12   component of the damages, how those will be

13   allocated, apportioned to putative class members?

14   MR. DIAMAND: Objection.

15   THE WITNESS: Yes. I believe that is in the,   03:36:26

16   in the report.

17   BY MR. CHORBA:

18   Q.   Where are you pointing, sir?

19   A.   To paragraph 60, on page 22, where it says

20   that it's, it is my opinion that a proper   03:36:42

21   attribution of damages among plaintiff class

22   members, calculated as benefits derived by the

23   defendant, should be based on the number of links,

24   URLs intercepted.

25   Q.   So, how would you apportion that, pursuant   03:36:55

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1   to that statement, how would you apportion the   03:36:57

2    $15 billion, or I think it's now $13 billion?

3   MR. DIAMAND: Objection.

4   THE WITNESS: Well, first, the 13 billion is

5   not the amount of damages. That's the value of the   03:37:07

6   social graph.

7   BY MR. CHORBA:

8   Q.   What's the amount of damages, then?

9   MR. DIAMAND: Objection.

10   THE WITNESS: I didn't calculate it.   03:37:15

11   BY MR. CHORBA:

12   Q.   How are you going to calculate it?

13   MR. DIAMAND: Objection. Asked and answered.

14   BY MR. CHORBA:

15   Q.   How are you going to calculate it?   03:37:20

16   MR. DIAMAND: Also, objection.

17   THE WITNESS: Applying the methodologies set

18   out in section 4 A.

19   BY MR. CHORBA:

20   Q.   Are certain class members under your   03:37:33

21   methodology going to get more than other putative

22   class members?

23   A.   I don't know for a fact. It is possible.

24   Q.   Will certain class members get zero

25   dollars, under your methodology?   03:37:48

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1   THE WITNESS: Correct, so I don't have in front   03:40:46

2   of me the information that I would need to make that

3   determination. So, assuming complete information,

4   that's my answer.

5   BY MR. CHORBA: 03:40:59

6   Q.   So, again, I'm asking you to assume that

7   there was no social plugin on this Craigslist

8   website on July 11, 2012. If that's true, then

9   there wouldn't be damages under section 4 B for that

10 particular message, correct? There might be under 4   03:41:11

11 A, but not under 4 B.

12   MR. DIAMAND: Objection.

13   THE WITNESS: So, in that hypothetical

14 situation, if the information that has not been yet

15 provided fits that construct, probably not.   03:41:25

16 BY MR. CHORBA:

17   Q.   And the information that has not been

18 provided would be whether or not that Craigslist

19 website had a social plugin at the time of that

20 message.   03:41:42

21   A.   For this aspect, yes, that's what we would

22 like to know.

23   Q.   Thank you. Let's turn back, and, again,

24 I'm in your report, I think we're on paragraph 62,

25 where you have the X, excuse me, the Y and the Z   03:41:52

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1   A.   Yes.   03:45:57

2   Q.   And what is that market?

3   A.   I believe there are reports that marketers

4   are able to acquire likes, or increases to their

5   counts, for a fee. I see that advertised on   03:46:11

6   Twitter, et cetera.

7   Q.   And does, to the extent there is such a

8   market, does the market value all likes the same

9   way?

10   MR. DIAMAND: Objection.   03:46:28

11   THE WITNESS: The concept of the market value

12   refers to everything in the market, depending on the

13   definition of the market. So, in that sense, it's

14   the same, but not all likes have the same value,

15   depending on their use.   03:46:54

16   BY MR. CHORBA:

17   Q.   And would the likes differ based on the

18   third party website, for example, Coca Cola versus a

19   personal blog?

20   MR. DIAMAND: Objection.   03:47:05

21   THE WITNESS: Yes. In principle, each like can

22   be leveraged in different ways so it's valued

23   differently. The point is, the benefit is to

24   Facebook, ultimately.

25   BY MR. CHORBA: 03:47:21

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 1        Q.   And it's your opinion that that benefit to   03:47:21

 2   Facebook is the same?

 3        MR. DIAMAND:  Objection.

 4        THE WITNESS:  No, that's not my opinion.

 5   BY MR. CHORBA:                                           03:47:29

 6        Q.   What is your opinion?

 7        A.   That Facebook benefits from the aggregate.

 8        Q.   So the aggregate, even though if

 9   individual increased likes are valued differently,

10   in the aggregate, it's benefiting from the              03:47:42

11   collective total of all of those.

12        MR. DIAMAND:  Objection.

13        THE WITNESS:  Yes.  That's, that's the type of

14   economy that Facebook works in.

15   BY MR. CHORBA:                                           03:48:00

16        Q.   If you look at paragraph 64 on the next

17   page, in the middle of the page, or middle of that

18   paragraph, and you can review the whole paragraph,

19   but I want to direct your attention to like 11,

20   where it states, while the cost is relatively           03:48:24

21   straightforward to ascertain, in the digital

22   advertising environment, gains from advertising are

23   susceptible to estimation in a variety of ways, such

24   as by the number of visitors to a web page, the

25   number of incoming links, the activity on social       03:48:39
```

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1   overcompensated in that hypothetical?   03:57:18

2   MR. DIAMAND: Objection. Misstates prior

3   testimony.

4   THE WITNESS: In that hypothetical situation,

5   you are also assuming that the URLs were intercepted   03:57:28

6   by Facebook during the time when they were

7   incrementing the likes, and the methodology is

8   attributing, is not measuring the effect, the

9   detriment, for example, to the class member, so it's

10   allocating to class members as a whole the benefits   03:57:57

11   to Facebook as a whole.

12   BY MR. CHORBA:

13   Q.   I understand. But, once it's allocated --

14   that's how you are measuring it -- but, then, once

15   you get to the stage when you are allocating it to   03:58:08

16   individual class members, if it is allocated to a

17   class member who sent a message containing a URL,

18   but there was no incrementation of the like count,

19   would you agree that that would overcompensate that

20   specific class member?   03:58:21

21   MR. DIAMAND: Objection.

22   BY MR. CHORBA:

23   Q.   Yes or no?

24   A.   No, it wouldn't, because it would be,

25   actually, it would be exact, because Facebook had to   03:58:26

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APP. 1080

1   inflated like count; do you know that?   04:04:52

2   A.   I don't understand the question.

3   Q.   What is the value?

4   MR. DIAMAND: Objection.

5   THE WITNESS: The numeric value?   04:05:00

6   BY MR. CHORBA:

7   Q.   Yeah, let's start there.

8   A.   I don't know what the number is.

9   Q.   What would you need to know that?

10   A.   So, the information that I list here is   04:05:07

11   the, how many URLs were intercepted that had, that

12   eventually led to like counts being increased, and

13   the ratio of those increases to the total like

14   counters, and that applied to the value of the

15   advertising revenue perceived by Facebook. That's a   04:05:37

16   small portion.

17   That, divided by, so, that value divided

18   by the inflated like count, the total inflated like

19   count, gives the value of the average or the, of,

20   each, an average, in my sense there, is the same.   04:06:00

21   Q.   How do you propose, or do you propose a

22   way to determine the number of URLs that you claim

23   were intercepted?

24   MR. DIAMAND: Objection.

25   THE WITNESS: No. That's a technical question   04:06:13

                                           Page 285

1   THE WITNESS: So, not here, but, typically, in   04:08:54

2 statistical inference, a 5 percent error is

3 customary and generally accepted.

4 BY MR. CHORBA:

5   Q.   And if you are dealing with many billion   04:09:07

6 number of messages, in the aggregate, not containing

7 URLs that had like counts incremented, but I'm

8 referring to table 2, what would a 5 percent error

9 rate, in your estimation, translate into?

10   A.   It wouldn't translate into a number that   04:09:25

11 can be compared to the number of messages. The

12 5 percent refers to something else, to the

13 probability of making a mistake in the calculation

14 of the average with respect to the population mean.

15   Q.   So you said, a 5 percent error rate is   04:09:45

16 customary and generally accepted.

17   Would the error rate be higher or lower

18 when you are dealing with tens of billions of

19 messages?

20   MR. DIAMAND: Objection.   04:09:56

21   THE WITNESS: Again, in a statistical analysis,

22 the error rate refers to those two probabilities.

23 It does not refer to multiplying it by the number of

24 elements in the set.

25 BY MR. CHORBA: 04:10:08

Page 289

1   Q.   So, are you able to say the bare minimum?   04:10:08

2   Well, let me ask you, based on the

3   messages that are contained in Exhibits 6 and 7, are

4   you able to come up with an estimate?

5   MR. DIAMAND: Objection.   04:10:19

6   THE WITNESS: An estimate of what?

7   BY MR. CHORBA:

8   Q.   An estimate of the number of intercepted

9   URLs?

10   A.   I don't understand the question.   04:10:26

11   Based on, based on what?

12   Q.   Based on the messages that are summarized

13   in Exhibits 6 and 7 in the chart.

14   MR. DIAMAND: Objection.

15   THE WITNESS: ███████████████   04:10:38

16   ████████████████████████████████

17   ███████████████████

18   BY MR. CHORBA:

19   Q.   ████████

20   A.   ███████████████████████   04:10:49

21   ██████████████████

22   The reference point I would take or the

23   comparison that I would do is that a 5 percent error

24   rate for a sampling of the U.S. population requires

25   a sample size in the thousands of people.   04:11:15

Page 290

1   So, a poll, to be statistically   04:11:18

2   significant to represent the views of 300 million

3   people, would need to take a look at 5 or 6,000. It

4   depends on the estimates of the variance that's

5   relevant for the variable being measured.   04:11:35

6   So, because Facebook is covering such a

7   large proportion of the population in the U.S., I

8   would expect that a proper determination of the

9   sampling techniques that would be applicable if

10 Facebook doesn't come up with the actual   04:11:54

11 information, would be in the order of the thousands

12 of people, as, as a representative sample that would

13 give, its averages would give a statistically sound

14 representation of the population mean.

15   Q.   And so it wouldn't be a number of   04:12:14

16 messages; it would be a number of people who use

17 Facebook?

18   MR. DIAMAND: Objection.

19   THE WITNESS: Well, I would think that it would

20 depend more on the number of members, because the   04:12:28

21 number of messages per member can vary, but it might

22 be necessary to consider the joint distribution of

23 messages and members, as well.

24 BY MR. CHORBA:

25   Q.   Turning to paragraph 73 --   04:12:41

APP. 1084

1   this benefit may have been converted to advertising   04:25:07

2   revenue benefiting Facebook.

3   Do you know what the fraction of the

4   benefit is?

5   A.   Not as of this date, no.   04:25:18

6   Q.   And does your report assume that

7   advertisers would have passed 100 percent of their

8   cost savings on to Facebook?

9   A.   Is that my assumption, that they would --

10   Q.   Yes. Is that your assumption?   04:25:37

11   A.   No.

12   Q.   What is your assumption, then?

13   A.   That a fraction would have been converted.

14   Q.   Which fraction?

15   MR. DIAMAND: Objection.   04:25:49

16   THE WITNESS: I don't have the information to

17   determine that fraction.

18   BY MR. CHORBA:

19   Q.   Can you tell me if it's more than

20   50 percent?   04:25:55

21   A.   I can't tell you, because I don't have the

22   information to determine it.

23   Q.   So you can't give me any estimate on the

24   range of zero percent to 100 percent?

25   A.   No. Without information, all I can tell   04:26:05

Page 295

1   spending, because there is an overlap in the time   04:29:13

2   periods, and that is basically what creates that

3   overlap that has to be accounted for.

4   So, if it were to be the case that benefits

5   from one perspective are the same as the benefits   04:29:28

6   from the other perspective, then, yeah, the overlap

7   with, would mean that you wouldn't add them

8   together. You would just have one.

9   BY MR. CHORBA:

10   Q.   And what if the benefits were greater than   04:29:42

11   the calculated effect from the incremental

12   advertising revenue? That would result in a

13   negative number?

14   A.   In, it would be a very strange

15   hypothetical situation where that would even be the   04:30:06

16   case, because of the length of the time period.

17   Q.   But, if it were the case, it would be a

18   negative number?

19   A.   So, whatever the methodology determines

20   for those two numbers would have to do the analysis   04:30:16

21   of the overlap, and, if the overlap overwhelms the

22   situation, then only one of them would be

23   appropriate.

24   Q.   So, you would never have a negative

25   number; you'd just pick the higher one?   04:30:30

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APP. 1086

1   A.   No.   The net.   I would always pick the net   04:30:32

2   damages.

3   Q.   But how would the net, if you are saying

4   that you would deduct the amounts, the analysis in

5   this section shall be deducted from the benefits   04:30:43

6   calculated under the methods described in the

7   previous section, okay, I'm saying, if the benefits

8   were greater than the calculated --

9   A.   Now, what this means is that --

10   MR. DIAMAND: Objection.   04:30:59

11   THE WITNESS: -- what this means is that the

12   overlap has to be taken into account.   That overlap

13   can be calculated, when everything is said and done,

14   and that overlap means that only one of the two

15   calculations will prevail.   04:31:12

16   BY MR. CHORBA:

17   Q.   One of the two, meaning A or B?

18   A.   So, if you add A and B, you would then

19   have to take away the overlap.

20   Q.   I see.   Okay.   So, that calculation is   04:31:21

21   just attempting to deduct that overlap for the time

22   period.

23   A.   Yes.   It would avoid double-counting.

24   Q.   Does your damages methodology account for

25   the possibility that the benefit of the challenged   04:31:37

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1   I, the undersigned, a Certified Shorthand

2 Reporter of the State of California, do hereby
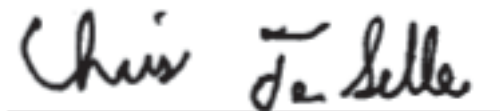
3 certify:

4   That the foregoing proceedings were taken

5 before me at the time and place herein set forth;

6 that any witnesses in the foregoing proceedings,

7 prior to testifying, were duly sworn; that a record

8 of the proceedings was made by me using machine

9 shorthand which was thereafter transcribed under my

10 direction; that the foregoing transcript is a true

11 record of the testimony given.

12   Further, that if the foregoing pertains to the

13 original transcript of a deposition in a Federal

14 Case, before completion of the proceedings, review

15 of the transcript [X] was [ ] was not requested.

16   I further certify I am neither financially

17 interested in the action nor a relative or employee

18 of any attorney or party to this action.

19   IN WITNESS WHEREOF, I have this date subscribed

20 my name.

21   Dated: 1/5/2016

22

23   _____

24   CHRIS TE SELLE

25   CSR No. 10836

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EXHIBIT EE

1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3   OAKLAND DIVISION

4   _____

5   MATTHEW CAMPBELL,   )Case No.

6   MICHAEL HURLEY, and   )C 13-05996 PJH (MEJ)

7   DAVID SHADPOUR   )

8   Plaintiffs   )

9   vs.   )

10   FACEBOOK, INC.   )

11   Defendants   )

12   _____

13

14   HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

15

16   Videotaped Deposition of Jennifer Golbeck

17   Washington, D.C.

18   December 16, 2015

19   9:03 a.m.

20

21   Reported by: Bonnie L. Russo

22   Job No. 2196773

23

24

25   PAGES 1 - 357

                                    Page 1

1   you looking at or opining on?

2   A.   So I looked at two versions of this

3   guy's -- the fraudulent guy's Web sites -- he

4   had two Web sites -- and basically just said

5   the name of Equity Trust Company didn't appear

6   on those Web sites.

7   Q.   When you refer to the Internet

8   archive, is that the same as the Wayback

9   Machine?

10   A.   It is.

11   Q.   Okay. Is that something you rely

12   upon in -- in your work?

13   A.   Pretty -- I use it pretty

14   frequently.

15   Q.   Is it pretty -- do you find it to be

16   fairly reliable?

17   A.   It's -- yeah, for what it is, right?

18   It's definitely not a complete archive of

19   everything that's out there, but the copies of

20   things that they do have are accurate.

21   And -- and I -- this is, again,

22   totally outside the area of my expertise

23   legally, but I think -- my understanding is

24   that they actually have said that legally it

25   can be assumed as true that, if something was

Page 20

1 archived on March 1st, that that absolutely was

2 there on March 1st. So it seems reliable to me

3 in that way.

4   Q.   Other than the expert reports and

5 testimony we've talked about, is there any

6 other -- are there any other expert reports or

7 testimony that you've ever given?

8   A.   No. There are other cases that I've

9 been invited to participate in, especially

10 patent cases, but ones that I've declined.

11   Q.   Have you ever served as a

12 nontestifying consultant in a -- in a lawsuit?

13   A.   So those --

14   Q.   Other than the E. Stephanie and --

15 you'll have to remind me of the name of the

16 other one.

17   A.   Yeah. Sherry's Dance Studio, I --

18   Q.   Sherry's Dance Studio.

19   A.   -- I think --

20   Q.   Yeah.

21   A.   -- is what that was.

22   Those I would count in there. Other

23 than those, I don't -- I don't think so.

24   Q.   If you -- in the instances when

25 you've declined to work in a patent case, why

Page 21

1   A.   Yes.

2   Q.   Have you observed people with

3   differing degrees of knowledge -- and here I'm

4   talking about social network users -- regarding

5   sort of the collection and processing of their

6   data by the social network?

7   A.   Yeah. There's vastly different

8   understandings.

9   Q.   Why do you think that is?

10   A.   It's really complicated, you know.

11   It -- and I think it's hard even for people who

12   are trained in that space to -- to really

13   understand what's happening because its

14   relatively opaque.

15   I have been surprised at times on --

16   on what data is made available say to third

17   parties. And I spend all my time learning

18   about that, right?

19   Q.   Uh-huh.

20   A.   That -- kind of how data gets out.

21   So I say in a lot of these talks, like if I

22   didn't know, like literally no one on earth can

23   be expected to know because it's my full-time

24   job, and I'm one of the experts on it.

25   So, you know, it's complicated. And

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1   then there's people with varying degrees of how

2   interested they are in tracking this down --

3   Q.   Uh-huh.

4   A.   -- right? I think it's analogous to

5   like terms of service, right? I read them.

6   Most people don't. And, you know, that's --

7   that gives you a big difference in what you

8   understand.

9   Q.   Would you agree with me that some

10 people understand that, when they are

11 interacting with a -- with a Web site, that

12 there are various electronic processes

13 happening in order to render the site and, you

14 know, basically make the site run, some people

15 are sort of aware of that, and others don't

16 have a clue?

17   MR. RUDOLPH: Objection. Form.

18 Vague. Compound.

19   THE WITNESS: I think that's true,

20 that there's varying levels of understanding

21 that people have on how that works.

22   BY MR. JESSEN:

23   Q.   Have you observed differing degrees

24 of consent from users for collection and use of

25 their data?

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1 general is -- I find it's much more difficult

2 to use.

3   There are certainly more people with

4 public profiles on Facebook, but it's a lot

5 harder to find them in the way they can be

6 found on Twitter or Pinterest, for example.

7   Q.   Okay. So tell me briefly what the

8 thesis was of the -- of the TED talk.

9   A.   Oh. I've never thought of it that

10 way.

11   Q.   Or maybe not -- "thesis" is the

12 wrong word, but the -- the point you were

13 making.

14   A.   I think -- you know, talking about

15 what people know and what they don't, hardly

16 anyone who hasn't seen my TED talk knows that

17 these kind of person- -- private personal

18 attributes can be inferred about them from what

19 they're doing online.

20   And the purpose of the TED talk was

21 really to kind of explain the vary powerful

22 things that we can do with this technology and

23 get people thinking about the implications.

24   Q.   And one of the things, I think --

25 you know, forgive me if I'm getting this

Page 100

1   wrong -- but you discuss with homophily?

2   A.   Yes.   You got it right.

3   Q.   What is -- what -- you may have to

4   give the court reporter the spelling of that

5   one.

6   But what is -- what is that exactly?

7   A.   Yeah.   So homophily,

8   H-O-M-O-P-H-I-L-Y, is a concept from sociology

9   actually that basically birds of a father flock

10   together, that we tend to be friends with

11   people who share our traits more than people

12   randomly pulled from the general population

13   would share our traits.

14   So you're right; you're friends with

15   rich people.   If you're poorly educated, your

16   friends tend to be poorly educated.   It applies

17   to race, sexual orientation, income, education,

18   kind of across the board.

19   Not that all of your friends are

20   like that, but your traits are more common in

21   your friends than they are in the general

22   population.

23   Q.   And does this -- is this sort of --

24   is this the phenomenon that allows a researcher

25   like yourself to look at seemingly random data,

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1 like what kind of fries you like, and then make

2 some sort of -- and I'm phrasing this really

3 badly -- but draw an inference about it based

4 upon attributes that you wouldn't think would

5 correlate with that?

6   A.   Sometimes.

7   Q.   Not a good question.

8   A.   So in the curly fries example in the

9 talk, which you were just talking about --

10   Q.   Yeah.

11   A.   -- you know, I kind of hypothesize

12 that homophily was one of the things that play

13 there. Sometimes it's used very directly in

14 those algorithms --

15   Q.   Uh-huh.

16   A.   -- where they're relying on that

17 basically as the entirety. I think it plays a

18 role in a lot of those algorithms, though

19 sometimes it's much less explicit.

20   Q.   Is homophily at all relevant to the

21 organization of social networks?

22   A.   In -- so are you asking could a

23 social network organize around that principle,

24 or does it emerge in social networks?

25   Q.   I guess more the latter.

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1   A.   I think it's true. I mean the

2   principle says these are the kinds of people we

3   tend to choose as friends, right? If I'm a

4   liberal, I will tend to choose other liberal

5   people as my friends.

6   And so, in that case, it can

7   influence how a social network forms. If I

8   find out some guy is a ranging racist, I may

9   unfriend him on Facebook, and that affects the

10   network.

11   So that -- that could be a way

12   homophily is considered, its play in

13   influencing the structure of the network.

14   Q.   Earlier you talked about social

15   graph.

16   Remind me what you meant by that?

17   A.   Social graph is just a -- a term to

18   refer to people and their connections to one

19   another.

20   Q.   And generally how is the data in a

21   social graph organized?

22   A.   Like from a computing perspective or

23   from a mathematical perspective?

24   Q.   I think a computing perspective.

25   A.   So there it really depends. So from

1   the mathematical perspective, it tends to be

2   represented in a graph structure, which is a

3   mathematical concept --

4   Q.   Okay.

5   A.   -- and to tease into their

6   connections to one another.

7   Q.   Uh-huh.

8   A.   Com- -- computationally, you could

9   store that in a relational database. There's

10   also graph-based databases that -- that are

11   network-based instead of relational. So it

12   really depends on the implementation.

13   Q.   Uh-huh. Do you know if Facebook has

14   a social graph?

15   A.   I mean they certainly have people

16   connected to other people.

17   Q.   Uh-huh. And is that something -- do

18   you know if there are other things that go into

19   their social graph?

20   A.   Well, I would just want to be

21   careful about terminology here, because

22   Facebook has a thing that they call "the social

23   graph" --

24   Q.   Right.

25   A.   -- which is different from the kind

Page 104

1   of generic way I'm using the term.

2   Q.   Okay.

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App. 1098-1347
Filed Under Seal

1 ██████ ██ ████ ████ ████ ██ ██ ██ ██

2 ██████ ██ ████ ████ ████ ███ ██ ██ ██ ██

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5 ██ ████ ██ ██████ ██████ ██████ ██

6 ██████ ████ ██ ████████ ██████ ██ █████

7   MR. JESSEN: Okay. I don't have any

8 further questions at this time.

9   I would renew my request for those

10 three e-mails between Dr. Golbeck and the

11 plaintiffs' counsel before she was engaged.

12   MR. RUDOLPH: We're -- we're going

13 to have to get back to you on that.

14   MR. JESSEN: Okay. And I'll just --

15   MR. RUDOLPH: Haven't had have time

16 to -- to look into it.

17   MR. JESSEN: Even though I think

18 it's unlikely I would bring you back, I will

19 just reserve my right to bring you back if need

20 be.

21   THE WITNESS: For the 15 seconds

22 that we have left on the record. That'd be

23 fun.

24   MR. JESSEN: They might --

25   THE WITNESS: I'll totally do 15

Page 355

 1   seconds.

 2   MR. JESSEN: They might give me

 3   another -- you know, little -- little bit --

 4   but hopefully that won't be necessary.

 5   THE WITNESS: There -- there's

 6   nothing too exciting in those e-mails. So...

 7   No. I know. I shouldn't talk about any of the

 8   communications.

 9   MR. JESSEN: Well, thank you for

10   your time. Happy birthday.

11   THE WITNESS: Thank you.

12   MR. JESSEN: And I have no further

13   questions.

14   MR. RUDOLPH: Yeah. No questions.

15   THE VIDEOGRAPHER: Off the record at

16   6:44.

17   This is the end of Media Unit 4 and

18   the end of the deposition.

19   (Whereupon, the proceeding was

20   concluded at 6:45 p.m.)

21

22

23

24

25

```
 1              CERTIFICATE OF NOTARY PUBLIC
 2          I, Bonnie L. Russo, the officer before
 3   whom the foregoing deposition was taken, do
 4   hereby certify that the witness whose testimony
 5   appears in the foregoing deposition was duly
 6   sworn by me; that the testimony of said witness
 7   was taken by me in shorthand and thereafter
 8   reduced to computerized transcription under my
 9   direction; that said deposition is a true
10   record of the testimony given by said witness;
11   that I am neither counsel for, related to, nor
12   employed by any of the parties to the action in
13   which this deposition was taken; and further,
14   that I am not a relative or employee of any
15   attorney or counsel employed by the parties
16   hereto, nor financially or otherwise interested
17   in the outcome of the action.
18
19
20   _____
21          Notary Public in and for
22          the District of Columbia
23
24   My Commission expires:  June 30, 2020
25
```

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EXHIBIT FF

App. 1352-1374
Filed Under Seal

EXHIBIT GG

App. 1376-1411
Filed Under Seal

EXHIBIT HH

App. 1413-1458
Filed Under Seal

EXHIBIT II

1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3   MATTHEW CAMPBELL, MICHAEL

4   HURLEY, and DAVID SHADPOUR,

5   on behalf of themselves and

6   all others similarly situated,

7   Plaintiffs,

8   vs.   No. 4:13-cv-05996-PJH

9   FACEBOOK, INC.,

10   Defendants.

11 _____/

12   **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY**

13   **CONTAINS SOURCE CODE**

14

15   VIDEOTAPED 30(b)(6) DEPOSITION OF

16   RAY HE

17   Wednesday, October 28, 2015

18

19

20

21 Reported by:

22 COREY W. ANDERSON

23 CSR No. 4096

24 Job No. SF 2173701B

25 PAGES 1 - 114

                                        Page 1

1	Q. Okay. Can you please point us to the	16:13:26
2	source code that performs that functionality?	16:13:29
3	A. Yes.	16:13:32
4	(Pause)	16:13:32
5	A. So at a high level, the code I have loaded	16:14:08
6	here will ███████████████████████ the	16:14:11
7	████████████████████████ That	16:14:20
8	would be line 54.	16:14:24
9	Q. And is this the source code that says	16:14:39
10	████████████████████████████	16:14:42
11	██████	16:14:50
12	A. Yes.	16:14:51
13	Q. A few lines below that there is code that	16:14:57
14	███████████████████?	16:14:59
15	A. Yes.	16:15:01
16	Q. What function does that code perform?	16:15:04
17	A. ██████████████████████	16:15:09
18	████████████████████████	16:15:14
19	████████████████████████	16:15:17
20	█████████████████████████	16:15:20
21	████████	16:15:23
22	Q. What is a █████ in the context of the	16:15:36
23	answer you just gave?	16:15:38
24	A. A ████████████████████████	16:15:44
25	████████████████████████	16:15:53

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1	██████████████████████.	16:16:00
2	Q. What did you mean by ████████████	16:16:17
3	████████████████████████████	16:16:18
4	████████████████████████? What does	16:16:22
5	that mean?	16:16:25
6	A. So for instance, you have -- let's say you	16:16:26
7	share something, say I can see this, but Josh can't,	16:16:32
8	it's a photo. You have made it so only I can see	16:16:39
9	it.	16:16:42
10	Now, if I share it, ████████████	16:16:43
11	████████████████████	16:16:47
12	██████████████████ ████	16:16:51
13	████████████████████████.	16:16:55
14	Q. In section 1 (b) the response states "██	16:17:23
15	████████████████████████	16:17:28
16	███ "	16:17:30
17	Do you see that?	16:17:32
18	A. Yes.	16:17:32
19	Q. ██████████████████████	16:17:34
20	████████████████████?	16:17:36
21	A. ██████████████████████	16:17:41
22	██████████████████████	16:17:44
23	██████	16:17:47
24	Q. Does this code ████████████	16:17:56
25	██████████████████████	16:18:01

Page 44

1	A. So at the -- at a high level it's the code	17:55:21
2	on the left.	17:55:23
3	Q. Okay. And this is -- which file is this	17:55:24
4	again?	17:55:28
5	A. This is ███████████████████	17:55:28
6	Q. Okay. And what lines are you referring	17:55:33
7	to?	17:55:35
8	A. ██████████████████████	17:55:38
9	████████████ ████████████████████	17:55:43
10	█████████████████████████	17:55:51
11	████████	17:55:56
12	Q. In the context of ██████████████	17:56:18
13	████████████████████████████	17:56:26
14	██████████?	17:56:29
15	A. ██████████████████	17:56:40
16	██████████████████████	17:56:43
17	██████████████████████████████	17:56:48
18	████████████████████████	17:56:58
19	████████████████.	17:57:02
20	Q. Can you point to the code that ████████	17:57:06
21	██████████████████████████	17:57:08
22	██████████?	17:57:13
23	A. Yes.	17:57:15
24	(Pause)	17:57:24
25	A. So the code I have on the left is code	18:00:30

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1	couple of questions talking about ███████		19:11:58
2	██████████████████ .		19:12:00
3	MR. RUDOLPH: Yes.		19:12:03
4	THE WITNESS: Just want to paint a picture		19:12:04
5	of what actually changed.		19:12:05
6	████████████████████		19:12:07
7	█████████████████████████		19:12:12
8	██████████████████████████ ,		19:12:16
9	███████████ ██████████		19:12:24
10	████████████████████		19:12:26
11	███████████████		19:12:31
12	BY MR. RUDOLPH:		19:12:38
13	Q. Okay. Is there anything else?		19:12:39
14	A. That was it.		19:12:41
15	Q. If you can go back to ██████ please?		19:12:44
16	A. Yes.		19:12:51
17	Q. ████████████████████████		19:13:03
18	██████████████		19:13:05
19	Do you see that?		19:13:07
20	A. Yes.		19:13:07
21	Q. And you, we discussed that ████████		19:13:08
22	███████████████████		19:13:10
23	███████████████████		19:13:13
24	A. Yes.		19:13:18
25	Q. Okay. ███████████████		19:13:18

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1   I, the undersigned, a Certified Shorthand

2   Reporter of the State of California, do hereby
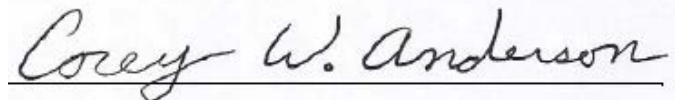
3   certify:

4   That the foregoing proceedings were taken

5   before me at the time and place herein set forth;

6   that any witnesses in the foregoing proceedings,

7   prior to testifying, were administered an oath; that

8   a record of the proceedings was made by me using

9   machine shorthand which was thereafter transcribed

10   under my direction; that the foregoing transcript is

11   a true record of the testimony given.

12   Further, that if the foregoing pertains to

13   the original transcript of a deposition in a Federal

14   Case, before completion of the proceedings, review

15   of the transcript was not requested.

16   I further certify I am neither financially

17   interested in the action nor a relative or employee

18   of any attorney or any party to this action.

19   IN WITNESS WHEREOF, I have this date

20   subscribed my name.

21   Dated: 10/30/2015

22

23   _____

24   COREY W. ANDERSON

25   CSR No. 4096

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In the Matter of: *Campbell et al. v. Facebook, Inc.*
Case No. 13-CV-05996-PJH

Date of deposition: October 28, 2015

Witness: Ray He

Reason codes:

1.   To clarify the record.
2.   To conform to the facts.
3.   To correct transcription errors.

Page	Line	Reads	Should Read	Reason Code
5	20	Q. What is it? A. Ray Sunshine He.	Q. What is it? A. Ray Chengchuan He.	3
15	19	A. I would estimate between three and – certainly greater than three, and I would say less, fewer than ten hours in person.	A. I would estimate between three and – certainly greater than three, and I would say less, fewer than ten meetings in person.	1
16	5	A. I met with Nikki, who is in the room, and Gina.	A. I met with Nikki, who is in the room, and Jeana.	3
20	15	A. That would be Nikki, Chris, Pryianka, and Gina.	A. That would be Nikki, Chris, Priyanka, and Jeana.	3
21	14	Mr. Jessen: I just object.	Mr. Jessen: I must object.	3
23	10	Q. List the ones that you know. A. Yes. Java, Python, C++, C, HaskellR.	Q. List the ones that you know. A. Yes. Java, Python, C++, C, Haskell.	3
23	16	A. CSS, if you consider that coding language, which not everyone does. Regular expressions, raw HTML and XML files, shell scripts, batch scripts.	A. CSS, if you consider that coding language, which not everyone does. Regular expressions, raw HTML and XML files, shell scripts, bash scripts.	3
24	1	A. Lisp. I mean, it depends on what you consider Facebook code and depends on the time period in question.	A. I mean, it depends on what you consider Facebook code and depends on the time period in question.	3

25	7, 9, 12	A. In general to find production optionees for Facebook and implement them or build them. Q. What's a product optionee? A. Opportunity. Q. What's an example of a product opportunity, product optionee that you found for Facebook?	A. In general to find product opportunities for Facebook and implement them or build them. Q. What's a product optionee? A. Opportunity. Q. What's an example of a product opportunity that you found for Facebook?	3
25	24	A. For instance, e-comments plug-in used by third party Websites to use Facebook's platform to add comments to their Website.	A. For instance, the comments plug-in used by third party Websites to use Facebook's platform to add comments to their Website.	3
28	14-16	Q. What did you do? A. Typed " [redacted] " Q. And what did that function perform? A. [redacted].	Q. What did you do? A. Typed " [redacted] " Q. And what did that function perform? A. [redacted].	3
28	17-24	Q. What's a [redacted]? A. [redacted] Q. And what did the [redacted] A. [redacted]	Q. What's a [redacted]? A. [redacted] Q. And what did the [redacted] A. [redacted]	3
28	25	Q. And does a [redacted] inform you as to the timeframe that this source code relates to? A. Yes.	Q. And does a [redacted] inform you as to the timeframe that this source code relates to? A. Yes.	3
29	4	Q. Okay. And what did [redacted] reveal in terms of the source code that's been---	Q. Okay. And what did [redacted] reveal in terms of the source code that's been---	3
29	9	Q. Okay. Were there any other [redacted]? A. I believe the second [redacted] was also December of 2012.	Q. Okay. Were there any other [redacted]? A. I believe the second [redacted] was also December of 2012.	3
30	17	A. [redacted]	A. [redacted]	3
31	24	A. It's likely [redacted]	A. It's likely [redacted]	3
32	7	A. [redacted].	A. [redacted].	3
32	10	A. [redacted]	A. [redacted]	3

32	14	A. It --	3
36	24	Q. Two lines below that there is code that says ?	3
37	13	A. Yes. A. It would likely be the r.	3
38	4, 6		3
38	12, 14, 15	A. In the context of the Q. What's the ? A.	3
39	3	THE WITNESS:	3
40	20	A. That is contained within	3
41	5	A.	3
41	7		3
41	12, 14	Q. What's an ?	3

3

41	Q. And what sort of data is returned in an ▮ ?	3
42	Q. Is a relevant image something that might be returned with an ▮ ?	3
43	Q. And is this the source code that says ▮ ?	3
43	A. Yes. A. ▮	3
44	A. ▮	3
46	A. This is ▮.	3
48	A. Yes. That would be line 989 on ▮ on the right.	3
48	A. ▮	3
49	A. ▮	3
49	Q. What is ▮ ? A. ▮	3
51	Q. Where is the ▮ stored? A. The ▮ ?	3
52	Q. Are there ▮ ? A. No. Not as such, no.	3

4

54	4, 6	A. It's an [redacted]. Q. Can you point us to the code that executes the [redacted]?	A. It's an [redacted]. Q. Can you point us to the code that executes the [redacted]?	3
54	9, 11	A. [redacted]	A. [redacted]	3
54	19	A. [redacted]	A. [redacted]	3
55	1	I believe our site integrity systems use this infrastructure as well as our use prevention systems.	I believe our site integrity systems use this infrastructure as well as our abuse prevention systems.	3
56	5	There is many factors I haven't listed that could contribute to something not returning a preview.	There are many factors I haven't listed that could contribute to something not returning a preview.	3
56	19	A. This is in [redacted]	A. This is in M[redacted]	3
58	25	A. The first one on line 153 is [redacted] line 826.	A. The first one on line 153 is [redacted], line 826.	3
60	22	A. Yes. That would be the same code we previously mentioned in [redacted] line 860.	A. Yes. That would be the same code we previously mentioned [redacted] line 860.	3
62	10	A. That would be [redacted]	A. That would be [redacted].	3
62	17	Q. Can you please point us to the source code that buys this functionality? A. The source code which actually handles the cancel action is on the left.	Q. Can you please point us to the source code that performs this functionality? A. The source code which actually handles the cancel action is on the left.	3
62	22	A. It's [redacted] line 887.	A. It's [redacted], line 887.	3
65	7	A. So if you look on the left, that's the code which [redacted].	A. So if you look on the left. that's the code which [redacted].	3
65	9-10	A. This is a [redacted].	A. This is a [redacted].	3
65	12	Q. Where is it located?	Q. Where is it located?	3

	A. In	3
65	A. In ▮	
16	A. This is the code that calls the code that ▮	A. This is the code that ▮.	3
18	Q. Is this ▮	Q. Is this ▮	3
1-4	Q. From 2010 to 2012, I'm sorry, 2009 to 2012, who would have referred to this ▮?	Q. From 2010 to 2012, I'm sorry, 2009 to 2012, who would have referred to this ▮?	3
	A. It would have been a subset of engineers after the creation of the ▮?	A. It would have been a subset of engineers after the creation of the ▮	
	Q. And what is the ▮	Q. And what is the ▮?	
25	I'm not an expert on Facebook's ▮	I'm not an expert on ▮.	3
72	A. This ▮	A. This is ▮.	3
74	A. ▮.	A. ▮.	3
2	Q. Are you familiar with the term "▮"?	Q. Are you familiar with the term ▮ "▮"?	3
	A. Yes.	A. Yes.	
15	▮	▮	3
7	The first is on the left in line 80.	The first is on the left in line 80.	3
8	And this code is executed ▮.	And this code is executed ▮.	3
19	A. ▮	A. ▮	3

6

APP. 1471

79	15	A. This is ▮ line 121.	A. This is ▮ line 121.	3
79	20	Q. Is the ▮ct record referred to as an ▮ sometimes?	Q. Is the ▮ referred to as an ▮ sometimes?	3
80	2	Q. Okay. I think we discussed that in the context of ▮ earlier. A. Yes.	Q. Okay. I think we discussed that in the context of ▮ earlier. A. Yes.	3
80	5	Q. And the same answer applies with respect to the term ▮?	Q. And the same answer applies with respect to the term ▮?	3
80	21	The Like button made a ▮ to the server which returned the ▮.	The Like button made an ▮ to the server which returned the ▮.	3
81	19	Q. Are those the ▮ – A. Yes. Q – that we discussed earlier? A. [No response.]	Q. Are those the ▮ – A. Yes. Q – that we discussed earlier? A. Yes.	3
83	5	A. This is ▮.	A. This is ▮.	3
83	10	But in particular where we call in to our rendering code is this ▮	But in particular where we call in to our rendering code is this ▮.	3
84	5	A. This is ▮.	A. This is ▮p.	3
85	4-6	Q. Are you familiar within sights dashboard? A. Yes. Q. What's your understand what the insights dashboard is? A. I believe it's used -- well, first of all, it depends on what dashboard we are referring to.	Q. Are you familiar with insights dashboard? A. Yes. Q. What's your understanding of what the insights dashboard is? A. I believe it's used -- well, first of all, it depends on what dashboard we are referring to.	3
86	1	A. I mean, there – within the context of Facebook, there is many things people might refer to as an insights dashboard, and then there is something else that, you know, people are Facebook developers might refer to as the insights dashboard.	A. I mean, there – within the context of Facebook, there are many things people might refer to as an insights dashboard, and then there is something else that, you know, people are Facebook developers might refer to as the insights dashboard.	3
88	20	A. ▮	A. ▮	3

90	I don't want to guess at what	7	I don't want to guess about	3
106	A. Yes. So we spent the last couple of questions talking about the	9	A. Yes. So we spent the last couple of questions talking about the	3
106		1		3
103	A.	14	A.	3
102	A.	25	A.	3
102	A. This is a -- this is I guess not really a file so much as a	20	A. This is a -- this is I guess not really a file so much as a	3
100	A. You can view that as , yes.	24	A. You can view that as , yes.	3
96	A. But the line 254.	9	A. But the line 254.	3
96		4		3
93	Q. And what's the name of this file? A.	23	Q. And what's the name of this file? A.	3
90	A.	18	A.	3

107	17	that I am not aware of. █████	3
109	5	█████	3
110	7	A. It's called █████	3
110	9	A. The file on the left is █████	3

that I am not aware of. █████

A. It's called █████

A. The file on the left is █████

Date: November _____, 2015

Ray He

EXHIBIT JJ

1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3   MATTHEW CAMPBELL, MICHAEL

4   HURLEY, and DAVID SHADPOUR,

5   on behalf of themselves and

6   all others similarly situated,

7   Plaintiffs,

8   vs.   No. 4:13-cv-05996-PJH

9   FACEBOOK, INC.,

10   Defendants.

11   _____

12

13   **HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY**

14   **CONTAINS SOURCE CODE**

15

16   VIDEOTAPED 30(b)(6) DEPOSITION OF

17   MICHAEL ADKINS

18   Wednesday, October 28, 2015

19

20

21   Reported by:

22   COREY W. ANDERSON

23   CSR No. 4096

24   Job No. SF 2173701A

25   PAGES 1 – 124

                                              Page 1

1	Q. Okay. And I saw that earlier prior to the	10:46:31
2	deposition and at the beginning of it you were doing	10:46:37
3	something with the computer. What were you doing	10:46:41
4	initially?	10:46:45
5	A. The source code as delivered appeared to	10:46:47
6	be compressed.	10:46:49
7	Q. Uh-huh.	10:46:51
8	A. And when compressed into a single archive	10:46:53
9	you cannot inspect the individual files.	10:46:56
10	So I decompressed it onto the file system	10:47:01
11	of the computer in the event that I would need to	10:47:04
12	access the individual source files for the purposes	10:47:07
13	of the deposition.	10:47:10
14	Q. As part of your preparation for this	10:47:11
15	deposition, did you review the source code that	10:47:31
16	specifically relates to topic 1 (c)?	10:47:35
17	A. I reviewed the source code for ███ and	10:47:38
18	██████	10:47:43
19	Q. Okay. Can you please identify the source	10:47:43
20	code that carries out the processes characterized in	10:47:56
21	section 1 (c)?	10:48:01
22	A. Yes.	10:48:09
23	Q. Please do.	10:48:10
24	████████████████████	10:48:49
25	████████████████████	10:48:51

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1		11:04:15
2		11:04:24
3		11:04:29
4		11:04:35
5		11:04:40
6		11:04:45
7		11:04:48
8		11:04:53
9		11:04:54
10		11:05:01
11		11:05:06
12		11:05:12
13		11:05:13
14		11:05:20
15	Q. I believe you said that the	11:05:22
16		11:05:27
17		11:05:30
18	A. Yes. So if you are using an online	11:05:33
19	product, and let's say you are writing the name of a	11:05:36
20	person you know or you are typing an e-mail address,	11:05:39
21	the product might have a list of recognizable search	11:05:46
22	terms which it would then offer to fill in for you	11:05:50
23	so you do not have to type the entire name or	11:05:53
24	address.	11:06:01
25	Q. During the 2010 to 2012 timeframe when	11:06:02

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APP. 1478

1	A. This is ███████████████████████	12:06:17
2	Q. And where is it located?	12:06:22
3	A. It is in ███████████████████████	12:06:23
4	███████	12:06:28
5	Q. What are the relevant features that ████████	12:06:36
6	has to take into account?	12:06:38
7	A. Relevant features ██████████████████	12:06:41
8	██	12:06:43
9	██	12:06:48
10	██	12:06:51
11	██	12:06:53
12	██	12:06:55
13	██	12:06:58
14	██	12:07:01
15	██	12:07:05
16	██	12:07:07
17	██	12:07:11
18	██	12:07:15
19	██	12:07:20
20	██	12:07:22
21	██	12:07:23
22	██	12:07:26
23	██	12:07:28
24	██	12:07:30
25	██	12:07:35

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1	███████████████████████████	12:07:38
2	███████████████████████████	12:07:49
3	███████████████████████████	12:07:53
4	███████████████████████████	12:07:56
5	███████████████████████████	12:08:00
6	███████████████████████████	12:08:02
7	███████████████████████████	12:08:06
8	███████████████████████████	12:08:08
9	███████████████████████████	12:08:15
10	███████████████████████████	12:08:20
11	███████████████████████████	12:08:37
12	A. Uh-huh.	12:08:39
13	Q. That's one of the files we were looking	12:08:40
14	at. Where --	12:08:41
15	A. That is this file.	12:08:42
16	Q. That's this file?	12:08:43
17	A. Yes.	12:08:44
18	Q. Where is the ████████ in this?	12:08:44
19	A. That's it (indicating). ████████	12:08:49
20	███████████████████████████	12:08:55
21	███████████████████████████	12:09:02
22	███████████████████████████	12:09:05
23	███████████████████████████	12:09:08
24	███████████████████████████	12:09:11
25	███████████████████████████	12:09:21

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1	███████████████████████	12:09:25
2	███████████████████████	12:09:28
3	███████████████████████	12:09:31
4	███████████████████████	12:09:34
5	███████████████████████	12:09:35
6	███████████████████████	12:09:38
7	Q. So the Facebook abuse- and	12:09:45
8	security-related platform that's referenced in this	12:09:47
9	section?	12:09:52
10	A. Uh-huh.	12:09:53
11	Q. Is ███████	12:09:53
12	A. I would say that is ████████	12:09:55
13	███████████████████████	12:09:56
14	███████████████████████	12:10:01
15	A. Those would be the ones we previously	12:10:03
16	discussed: ███████████ sigma, et cetera.	12:10:05
17	Q. Which, what's the name of the ████████	12:10:45
18	██████████	12:10:48
19	A. The name of the ████████	12:10:51
20	Q. Uh-huh.	12:10:53
21	A. It is simply called ████████	12:10:54
22	Q. Okay. And what does that function	12:10:56
23	perform?	12:11:00
24	A. That is simply the ████████████	12:11:01
25	████████████████████████	12:11:05

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```
 1        A.    Uh-huh.                                    13:44:52

 2        Q.    States ████████████████████               13:44:54

 3     ███████████████████████████████████████            13:44:56

 4     ███████████████████████████████████████            13:45:00

 5     ███████████████████████████████████████            13:45:02

 6     ███████████████████████████████████████            13:45:05

 7     ███████████████████████████████████████            13:45:07

 8     ███████████████████████████████████████            13:45:10

 9              Is that correct?                           13:45:13

10        A.    That is correct.                           13:45:14

11        Q.    What are the ██████████████ that are       13:45:21

12     being referred to here?                             13:45:24

13     ███████████████████████████████████████            13:45:26

14     ███████████████████████████████████████            13:45:30

15     ███████████████████████████████████████            13:45:33

16     ███████████████████████████████████████            13:45:37

17     ███████████████████████████████████████            13:45:41

18     ███████████████████████████████████████            13:45:44

19     ███████████████████████████████████████            13:45:48

20     ███████████████████████████████████████            13:45:51

21        Q.    Where is the source code that carries out  13:46:05

22     this functionality?                                 13:46:07

23     ███████████████████████████████████████            13:46:11

24     ███████████████████████████████████████            13:46:13

25     ███████████████████████████████████████            13:46:16
```

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1	███████████████████████████	13:46:22
2	███████████████████████████	13:46:25
3	Q. What ████████████████	13:46:32
4	██████████████ould be available to the	13:46:35
5	integrity and abuse- and security-related platforms?	13:46:38
6	A. ████████████████████ that -- and I'm	13:46:45
7	not sure that ████████" is quite the correct	13:46:48
8	word, it's probably just more like ████████	13:46:51
9	████████████████████████	13:46:53
10	████████████████████████	13:46:57
11	████████████████████████	13:47:00
12	Q. What format was the ████████	13:47:30
13	████████████ stored in?	13:47:33
14	A. I believe it would be ████████	13:47:41
15	████████	13:47:43
16	Q. Okay. And where does that ████████	13:47:51
17	████████████	13:47:54
18	████████████████████████	13:47:55
19	████████████████████████	13:48:00
20	████████████████████████	13:48:06
21	Q. And where are the ████████	13:48:16
22	█████ I'm sorry, withdrawn.	13:48:18
23	████████████████████	13:48:20
24	████████████████████	13:48:22
25	A. They are similar to ████████	13:48:27

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1   I, the undersigned, a Certified Shorthand

2   Reporter of the State of California, do hereby

3   certify:

4   That the foregoing proceedings were taken

5   before me at the time and place herein set forth;

6   that any witnesses in the foregoing proceedings,

7   prior to testifying, were administered an oath; that

8   a record of the proceedings was made by me using

9   machine shorthand which was thereafter transcribed

10   under my direction; that the foregoing transcript is

11   a true record of the testimony given.

12   Further, that if the foregoing pertains to

13   the original transcript of a deposition in a Federal

14   Case, before completion of the proceedings, review

15   of the transcript was not requested.

16   I further certify I am neither financially

17   interested in the action nor a relative or employee

18   of any attorney or any party to this action.

19   IN WITNESS WHEREOF, I have this date

20   subscribed my name.

21   Dated: 10/30/2015

22

23   _____

24   COREY W. ANDERSON

25   CSR No. 4096

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APP. 1484

Errata

Case: *Campbell et al. v. Facebook, Inc.*
Case No. *13-CV-05996-PJH*
Date of Deposition: October 28, 2015
Name of Deponent: **Michael Adkins**

Reason codes:
1. To clarify the record.
2. To conform to the facts.
3. To correct transcription errors.

Page	Line	Reads	Should Read	Reason
Global		███████████████████		1
Global		███████████████████		1
Global		███████████████████		1
Global		sigma	Sigma	1
13	12	at – during my time at Facebook.	during my time at Facebook.	1
16	18	some – some time ago, some number of months ago.	some time ago, some number of months ago.	1
16	23	there – that this case existed and that we were on	this case existed and that we were on	1
19	17	If – if I was notified of a case like	If I was notified of a case like	1
20	2	I can't remember precisely or than that I	I can't remember precisely other than that I	3
20	3	was looking for anything specific. Mostly just	wasn't looking for anything specific. Mostly just	3
24	19	I have – I have seen	I have seen	1
34	8	operational reasons why not such as system outages	operational reasons why not, such as system outages	1
37	7	machine learned	machine-learned	1
38	17	building a	building the	3
41	22	set to – to dictate	set to dictate	1
42	10	team, it	team. It	1
43	2-3	and Windows phones. If we need a new feature – each of which	and Windows phones, each of which	1
47	21	████████████████		3

Page	Line	Reads	Should Read	Reason
48	20-23	████████████████	████████████████	1
50	6	do the thing you are supposed to do	"do the thing you are supposed to do"	1
54	11	service to team to generate a preview	service to attempt to generate a preview	3
61	15	details	detailed	3
65	16	message's	Messages	3
65	17	post send	post-send	3
68	10	message's	Messages	3
69	11	pass	passed	3
72	24	sender allowed to send	sender is allowed to send	3
76	24	████████████████	████████████████	3
80	4	machine learned	machine-learned	3
80	24	,	that	1
81	19	to black	to the black	1
83	21	miss behave	misbehave	3
84	15	taken is	taken it is	3
87	3	small attachments	small. Attachments	3
89	19	is in sigma this is in	is in Sigma. This is in	3
101	9	sand attach reports	and attachments	3
119	8	that	[remove]	1
121	9	Is it	It is	3

2

Michael Adkins

EXHIBIT KK

App. 1489-1494
Filed Under Seal

EXHIBIT LL

App. 1496-1507
Filed Under Seal

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISON

MATTHEW CAMPBELL and MICHAEL HURLEY, Plaintiffs, v. FACEBOOK, INC., Defendant.	Case No. C 13-05996 PJH (MEJ) **PUTATIVE CLASS ACTION** **DECLARATION OF ALEX HIMEL IN SUPPORT OF DEFENDANT FACEBOOK, INC.'S OPPOSITION TO PLAINTIFFS' MOTION FOR CLASS CERTIFICATION**

Gibson, Dunn & Crutcher LLP

DECLARATION OF ALEX HIMEL IN SUPPORT OF OF DEFENDANT'S OPPOSITION TO PLAINTIFFS' MOTION FOR CLASS CERTIFICATION
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APP. 1508

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DECLARATION OF ALEX HIMEL IN SUPPORT OF OF DEFENDANT'S OPPOSITION TO PLAINTIFFS' MOTION FOR
CLASS CERTIFICATION
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APP. 1509

Gibson, Dunn &
Crutcher LLP

I, Alex Himel, declare as follows:

1. I have been employed as a software engineer at Facebook since April 2009, and my current title is Engineering Director. I am over the age of 18. From 2009-2014, I worked on Facebook's Developer Platform, and my work encompassed Facebook's Social Plugins and Insights features. I have personal knowledge of the matters stated herein and, if called as a witness, could and would testify competently thereto.

2. I provide this Declaration in support of Facebook's Opposition to Plaintiffs' Motion for Class Certification, and to explain certain facts regarding ██████████████████████ ██ ██████ Insights (including the user interface ("UI"), application program interface ("API"), and dashboard, also referred to below as "Insights and Related APIs"), and other public APIs including ████████ and Graph API. This Declaration also describes certain Facebook services related to these functions, particularly as they relate to uniform resource locators ("URLs") in messages sent and received through the Facebook platform.

3. I also understand that, on November 13, 2015, Plaintiffs filed a Motion seeking to certify the following proposed class:

> All natural-person Facebook users located within the United States who have sent, or received from a Facebook user, private messages that included URLs in their content (and from which Facebook generated a URL attachment), from within two years before the filing of this action up through the date of the certification of the class.

I understand that Plaintiffs filed their action on December 30, 2013, and that therefore the relevant period for Plaintiffs' new purported class is December 30, 2011 to the present (the "Class Period").

I. Identifying Proposed Class Members

4. To my knowledge, neither Facebook nor any other entity possesses the data that would be required to identify all persons meeting Plaintiffs' class definition. Facebook does not ████████ ██ ████████████████████████████████. For example, people who included a URL in their message, ██

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DECLARATION OF ALEX HIMEL IN SUPPORT OF OF DEFENDANT'S OPPOSITION TO PLAINTIFFS' MOTION FOR CLASS CERTIFICATION
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APP. 1510

putative class members.

5.   Additionally, as discussed below, determining whether any given person was subjected to the challenged practices would require a message-by-message inquiry. To my knowledge, neither Facebook nor any other entity possesses the data that would be required to determine whether any given person meeting this criteria was subjected to all the challenged practices.

6.   In her report, Dr. Golbeck says that "to retrieve a list of class members, the Code process should be relatively straightforward," and that "a database query could be used to select the Facebook user IDs of everyone whose actions had ██████████████████ a private message." (Golbeck Report ¶ 103.) In the next two paragraphs of her report, she provides "sample" code that she contends would return a list of "Facebook user IDs of everyone ████████████████ ███████████████ and, in her deposition, she said that such a list would identify the class members. (Golbeck Deposition Transcript at 331:2-8.)

7.   That is incorrect. This query would return a list of users that is both under- and over-inclusive of the proposed class. For example, a ████████████████████████ ███████████████████████████. Therefore a ██████████████████ ████ recipient class members. Also, Dr. Golbeck uses the ███████████████ ██████████████████████████████████████ ████████████████████████████████ ██████████████████████. Thus, this ████████████████ ██████████████████████████████████ ██████████████████████.

8.   In addition, Facebook's systems ██████████████████████████ in other words, ██████████████████████████ ██████████████. Instead, in order to accommodate her query, Facebook ████████████

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APP. 1511

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6 ███████████████████████████████.

7   9.   Further, the results of this query will ███████████████████████

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10 ████████████████████████████████.

11 **II.** ████████████

12   **A.**   **Overview**

13   10.   All information that users share through the Facebook platform, including messages

14 and all other information, is received by Facebook and stored on Facebook servers. Facebook must

15 receive and host all information shared on the site in order to provide its social-networking service.

16 Facebook also anonymizes and aggregates certain data in order to help facilitate users' discovery of

17 potentially relevant and interesting information on the web at large. For example, Facebook offers a

18 "Like" button social plugin, which has been integrated into websites all over the world; if a user

19 clicks on the "Like" button, Facebook displays a "story" of that action on the users' Timeline, and

20 Facebook keeps a count of the number of times that webpage has been "Liked" and provides some of

21 that data publicly in the aggregate.

22   11.   Another way that users interact with webpages is by "sharing" the URL to that

23 webpage, for example by copying and pasting the URL into a post or a message. Under certain

24 circumstances █████████████████████████████████

25 ████████████████████████████████████ As explained in

26 Facebook's Second Supplemental Responses and Objections to Plaintiffs' Narrowed Interrogatory

27 No. 8, attached as Exhibit MM, Facebook stores ███████████████████

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"objects." Generally, in computer science, "object" refers to data and software code grouped together to make the process of writing and running source code efficient and effective. The concept of an "object" is a basic element of what is widely referred to as "object-oriented code." When certain types of data are configured into a limited number of classes in this way, the code that actually processes that data can be written more efficiently, which can improve speed and reduce errors. Facebook's "objects" group together data in order to make the operation of its software more efficient.

12.   Facebook's ██

██

██

There is nothing unusual or nefarious about the use of "objects"—which are merely a name for a certain way of storing data—in software programming.

B.   ████████████████████████████████   **and Messages**

13.   As explained in Facebook's Supplemental Responses and Objections to Plaintiffs' First Set of Interrogatories (attached as Exhibit NN), during the relevant period in this case, if a user typed a URL into the text field in the Facebook Messages product, ████████████████████

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██

██

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████████████████████

14.   Or, ██

██

██

██   When Facebook

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15.   Where available, URL previews ████████████████████████████

██

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██

██

16.   If ██

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██

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APP. 1514

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6   17.   Another way to share a URL in a Facebook message was to click on the "Share"

7 button on a third-party website, and choose (from the options presented to the user) to share the URL

8 for that page in a Facebook message.

9 possible),

10 generally with the URL for the page on which the "Share" button was displayed.

11   18.

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19 .

20   19.

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23   **C.**   **Variability in Connection with**

24   20.

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APP. 1515

Gibson, Dunn &
Crutcher LLP

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9 ████████████.

     21.   Additionally, ██

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13 ███

14 ██

     22.   Taking all of this variation together, at a minimum, determining whether a user's inclusion of a URL in a Facebook message ███████████████████████████████████

17 ████████████████████████████████

18 ██ ███

19 ██ ██████████████████████████████████████

20 ██ ██

21 ██ ███████

22 ██ ██

23 ██ ██

24 ██ ██

25 ██ ██████████████████████████████████

26 ██ ███

27 ██ ██

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DECLARATION OF ALEX HIMEL IN SUPPORT OF OF DEFENDANT'S OPPOSITION TO PLAINTIFFS' MOTION FOR CLASS CERTIFICATION

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Gibson, Dunn & Crutcher LLP

III. ████████████████████████

    A.   **Overview**

23. ██
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Gibson, Dunn &
Crutcher LLP

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4   26. ██████████████████████████████████

5 ██████████████████████████████████

6   **B.**   **Variability in Connection with** ████████████████████

7   27.   For people using Facebook who sent a message with a URL ████████████

8 ██

9 ██

10 ████████████████████████████████████

11 ██

12 ████████████████████████████████████

13 ██

14 ██

15 ██

16 ████████████████

17   28.   Additionally, ██████████████████████████████

18 ██

19 ██

20 ██

21 ██████████████████████████████████████

22 ██

23 ██

24 ██████████████████████████████████████

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[3] Facebook's system comprises tens of millions of lines of code, ██████████████████ 1.5 billion people, and handling over ███████ requests each day. ██ ██████████████████████

9

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APP. 1518

1 ██

2 ████████████████████████████████████

3   29.   Taking all of this variation together, at a minimum, determining whether ████████

4 ██

5 ████████████████████████████████████ individualized inquiries for each

6 message:

7   a.   When was the message sent?

8   ██ ████████████████████████████████

9   ██████████████████████████████

10   ██ █████████████████████████████████

11   ██ ████████████████

12   ██ ███████████████

13   ██ ████████████████

14   30.   ██

15 ██

16 ████ for putative class members.

IV.   Plugin Count

A.   Overview

31.   During the proposed Class Period, Facebook offered websites "social plugins," or units of embeddable code that allow people to share information using Facebook directly from third-party websites. For example, a third-party website may embed code for the Facebook "Like" button plugin on its website, enabling people using Facebook to directly "Like" the website and to share that action with their Facebook connections (without having to return to https://www.facebook.com or the Facebook mobile app to share the content).

32.   The "Like" button plugin also may display an anonymous and aggregate count of all "Likes" for that particular website. At different times, this aggregate count next to the plugin ("Plugin Count") may have included URLs (a) shared (in the NewsFeed), (b) commented on,

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APP. 1519

(c) liked, and (d) sent as an attachment to a message (and recorded as a share object). Or, depending on how it was configured by the site owner, it may have displayed the number of "fans" for that page.

33. Instructions for how to embed the "Like" button and Plugin Count into a website, and an explanation of the components of the Plugin Count, were disclosed publicly in Facebook's developer guidance—one of the primary locations where Facebook explains the functionality of its service to the public. For a period beginning at least as early as March 7, 2011, the developer guidance included a section entitled "What makes up the number shown on my Like button?" and explains that the number is "the sum of:

- The number of likes of this URL
- The number of shares of this URL (this includes copy/pasting a link back to Facebook
- The number of likes and comments on stories on Facebook about this URL [and]
- The number of inbox messages containing this URL as an attachment."

B. Plugin Count and Messages

34. From the beginning of the Class Period until December 19, 2012,

35. During that time period,

36. I understand that Plaintiffs' expert, Dr. Jennifer Golbeck, has suggested that by

11

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APP. 1520

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4   There is nothing unusual or

5   nefarious about Facebook taking note of its users' experiences and preferences and the reaction of the

6   press. Facebook is sensitive to users' feedback and regularly incorporates that feedback into its

7   design and engineering decisions.

8   **C.   Variability in Connection with Plugin Count**

9   37.   On December 19, 2012,

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15   38.   As noted above, if a person using Facebook

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20   39.   Similarly, if the destination website associated with the URL did not display a

21   Facebook Plugin Count,

22

23

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25   40.   Additionally, in some cases, even if

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                                                     12

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APP. 1521

1 ██

2 ████████████████

3   41.   ██

4 ██

5 ██

6 ██████

7   42.   At a minimum, determining whether a putative class member's inclusion of a URL in

8 a message ██

9 ████████████████████████████████████

10   a.   When was the message sent?

11   b.   ██

12   ████████████████████████████████

13   █   ██████████████████████████████████████

14   ████████████████████████

15   █   ████████████████████████████

16   █   ██

17   █   ██████████████████████████████████

18   ████████████████

19   43.   ██

20 ██

21 ████ for putative class members.

22 **V.**   ████████████

23   **A.**   **Overview**

24   44.   For a period of time, prior to the Class Period, ████████████████████

25 ██

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27 [4] This is not the same as the ████████████████ discussed in my June 1, 2015 declaration.

28

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among other things, Facebook's Recommendations social plugin, which I understand is addressed in

the Declaration of Dan Fechete being submitted in support of Facebook's Opposition to Certification.

███

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███

████████████████████████████████.

B. ████████████ **and Messages**

45.   If a person sent a Facebook message, ██

███

███

██

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██

██

██.

C.   Variability in Connection with ██████████████

46.   For people who sent a message ██████████████████████████████████

███

███

██

██

47.   ██

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APP. 1523

48.	Additionally, if a message was sent ███████████████████████

███

49.	Taking all of this variation together, at a minimum, determining whether a Facebook

user's inclusion of a URL in a message ████████████████████████

██████████████████████████████

    a.	When was the message sent?

    b.	████████████████████████████████

       ████████████████████████

█   ████████████████████████████

       ██████████████████

50.	███████████████████████████████████████

████████████████████████████████████

███ for putative class members.

VI.	████

    A.	**Overview**

51.	████████████████████████████████████

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52.	████████████████████████████████████

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6 █████████████████████████████████████

7 ███████████████████████████████████████

8 ██████████████

9 **B.** ████████████████████ **for Messages**

10 53. ████████████████████████████████████

11 ██

12 ███

13 ███

14 ██████████████████████

15 █ █████████████████████████████████████

16 █████████████████████████████

17 **C.** **Variability in Connection with** ████

18 55. Because ██████████████████████████████

19 ██

20 ██

21 ████████ .

22 56. At a minimum, determining whether a Facebook user's inclusion of a URL in a

23 message ███████████████████████████████████

24 ███████████████████████████

25 █ ████████████████████████████████

26 █ ██████████████████████████

27 █ ██████████████████████████████████

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16

DECLARATION OF ALEX HIMEL IN SUPPORT OF OF DEFENDANT'S OPPOSITION TO PLAINTIFFS' MOTION FOR CLASS CERTIFICATION
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APP. 1525

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57. ██████████████████████████████████

██████████████████████████████████████

██ for putative class members.

VII. Insights and Related APIs

A. Overview

58. "Insights" is the name of a Facebook user interface (UI), accessible from a Facebook website, and a related Facebook application program interface (API). Facebook Insights and Related API provide the owners of particular websites (also known as URL "domain owners") with data about interaction with and traffic to their websites. In order to access this information, a domain owner must provide authentication demonstrating that he or she does indeed own that particular website (URL domain) or webpage (URL). After authentication, the domain owner can use the Insights dashboard or APIs to obtain statistics and demographics about the domains/URLs they own. Specifically, Insights provides information about how effectively Facebook is generating traffic to their site and demographic information about the users who make up that traffic. It also included aggregate, anonymous statistics and aggregate, anonymous demographic information about the people who share links to that domain owners' sites across the Facebook platform.

59. In 2011, Facebook created a new specialized Insights architecture designed to reflect data about activity as quickly as possible after that activity occurred ("Real Time Analytics"). The data store of activity to support the new Insights feature is completely separate from the other stores

17

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discussed above; the Insights system ████████████████████████████

████████████████████

B.   Insights and Related APIs and Messages

60.   When the Insights product was announced in April 2010, ████████████

████████████████████████████████

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61.   However, on October 11, 2012, ████████████████████████████████

██████████████████████████████████

C.   Variability in Connection with Insights and Related APIs

62.   As stated above, ████████████████████████████████

██████████████████████████████████████

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████████████

63.   Further, ████████████████████████████████

18

64. At a minimum, determining whether a person's inclusion of a URL in a message was

██

██████████████████████████████████

       a.   When was the message sent?

65.

       for putative class members.

VIII.   **Graph API**

    A.   **Overview**

66. The original ████████████████ I introduced in my June 1 Declaration (attached hereto as Exhibit OO) was renamed to be called the ████████████. Facebook ████████████

19

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1 ██

2 ██

3 ███

4 ███

5 ███████████████████████████████████

6   67.   Graph API is an API that allows third-party apps to read and write to Facebook's

7 "social graph"—a general name for a store of data about users and their activity that Facebook has

8 made available to developers in certain ways to facilitate the creation of products and features that

9 interact with the Facebook platform in both directions. Developers and their users can learn about

10 other users' engagement with different information and contribute their own data to that effort, and

11 build products that incorporate that information in useful ways. Developers can use the Graph API

12 to, for instance, query data, post stories, upload photos, and perform other similar activities.

13   68.   During the proposed Class Period, the ██████████████ Graph APIs ███████

14 ██

15 ████████████████████████████████ Graph API only ██████████████

16 ███

17 ████████████████

18   **B.**   ████████████   **Graph API and Messages**

19   69.   For a limited period of time between August 2010 and October 2012 ████████

20 ███

21 ███

22 ██

23 ██

24 ███

25 ██

26 ██

27 ████████████ the Graph API.

28

<div align="center">20</div>

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70. ██

██████████████████████████████████ or Graph API, ██████████████

███

███

████████████████████████████ during certain periods of time.

71. Facebook ██████████████████████████████████████

████████████ Graph API after October 16, 2012.

72. I also understand that Plaintiffs ████████████████████████

███

███

███

███

███

███

██

███

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███

██

███ as

Plaintiffs allege without apparent support.

C. **Variability in Connection with** ████████████ **& Graph API**

73. ██████████████████████ Graph API queries would have reflected ██████████

███

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1   Accordingly, as stated above and in my Declaration dated June 1, 2015, until August 2010, ████

2   ██

3   ██████████████████████████████████ Graph API query.

4   74.   Similarly, after October 16, 2012, ██████████████████████████████

5   ██████████████████████████████████████ Graph API query.

6   75.   Accordingly, ██

7   ██

8   ██

9   ████████████████ Graph API query. ██████████████████████████

10   ████████████ between December 2011 and October 16, 2012 could have been subject to these

11   practices during the Class Period.

12   76.   Further, ███████████████████████████████████

13   ██

14   ██

15   ██████████████████████████ Graph API query. ██████████████████

16   ██

17   ██

18   ██

19   ████████████

20   77.   ██████████████████████████████████████

21   ████████████ Graph API for any given URL ██████████████████████

22   ████████████

23   78.   At a minimum, determining whether ███████████████████████

24   ████████████████████████████████ Graph API queries would require the

25   following individualized inquiries for each message:

26   a.   When was the message sent?

27   b.   ██

28

22

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1

2

3

4   79.

5

6   putative class members.

7

8   I declare under penalty of perjury under the laws of the United States of America that the

9 foregoing is true and correct and that this declaration was executed on January 14, 2016, in Menlo

10 Park, California.

11   /s/ Alex Himel
                                                      Alex Himel
12

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ATTORNEY ATTESTATION

I, Christopher Chorba, attest that concurrence in the filing of this Declaration of Alex Himel 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 15th day of January, 2016, in Los Angeles, California.

Dated: January 15, 2016

/s/ Christopher Chorba
Christopher Chorba

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EXHIBIT MM

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FACEBOOK, INC.

15   UNITED STATES DISTRICT COURT

16   NORTHERN DISTRICT OF CALIFORNIA

17   OAKLAND DIVISION

18 MATTHEW CAMPBELL, MICHAEL HURLEY, and DAVID SHADPOUR,	Case No. C 13-05996 PJH (MEJ)
19	**PUTATIVE CLASS ACTION**
20 Plaintiffs,	
21 v.	**DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO PLAINTIFFS' NARROWED SECOND SET OF INTERROGATORIES**
22 FACEBOOK, INC.,	
23 Defendant.	

24

25

26   HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

27   SUBJECT TO PROTECTIVE ORDER

28

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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Defendant Facebook, Inc. ("Defendant" or "Facebook"), by and through its attorneys, and pursuant to Rules 26 and 33 of the Federal Rules of Civil Procedure, the Local Civil Rules of the U.S. District Court for the Northern District of California, the Court orders in this action, and the parties' agreements, provides the following second supplemental responses and objections to Plaintiffs' Narrowed Second Set of Interrogatories (the "Interrogatories").

PRELIMINARY STATEMENT

1.   Facebook's responses to the Interrogatories are made to the best of Facebook's current knowledge, information, and belief. Facebook reserves the right to supplement or amend any of its responses should future investigation indicate that such supplementation or amendment is necessary.

2.   Facebook's responses to the Interrogatories are made solely for the purpose of and in relation to this action. Each response is given subject to all appropriate objections (including, but not limited to, objections concerning privilege, competency, relevancy, materiality, propriety, and admissibility). All objections are reserved and may be interposed at any time.

3.   Facebook's responses are premised on its understanding that Plaintiffs seek only that information that is within Facebook's possession, custody, and control.

4.   Facebook incorporates by reference each and every general objection set forth below into each and every specific response. From time to time, a specific response may repeat a general objection for emphasis or some other reason. The failure to include any general objection in any specific response shall not be interpreted as a waiver of any general objection to that response.

5.   Nothing contained in these Reponses and Objections or provided in response to the Interrogatories consists of, or should be construed as, an admission relating to the accuracy, relevance, existence, or nonexistence of any alleged facts or information referenced in any Interrogatory.

GENERAL OBJECTIONS

1.   Facebook objects to each Interrogatory, including the Definitions and Instructions, to the extent that it purports to impose obligations beyond those imposed by the Federal Rules of Civil Procedure, the Federal Rules of Evidence, the Local Civil Rules of the U.S. District Court for the Northern District of California, and any agreements between the parties.

1

DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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1   2. Facebook objects to each Interrogatory to the extent that it is not limited to the

2 relevant time period, thus making the Interrogatory overly broad, unduly burdensome, and not

3 relevant to the claims or defenses in this action. Unless otherwise specified in its responses, and

4 pursuant to the agreement of the parties, Facebook's responses will be limited to information

5 generated between April 1, 2010 and December 30, 2013.

6   3. Facebook objects to each Interrogatory to the extent that it seeks information unrelated

7 and irrelevant to the claims or defenses in this litigation and not reasonably calculated to lead to the

8 discovery of admissible evidence.

9   4. Facebook objects to each Interrogatory as overly broad and unduly burdensome,

10 particularly in view of Facebook's disproportionate cost necessary to investigate as weighed against

11 Plaintiffs' need for the information. The Interrogatories seek broad and vaguely defined categories of

12 materials that are not reasonably tailored to the subject matter of this action.

13   5. Facebook objects to each Interrogatory to the extent that it purports to request the

14 identification and disclosure of information or documents that were prepared in anticipation of

15 litigation, constitute attorney work product, reveal privileged attorney-client communications, or are

16 otherwise protected from disclosure under any applicable privileges, laws, or rules. Facebook hereby

17 asserts all such applicable privileges and protections, and excludes privileged and protected

18 information from its responses to each Interrogatory. *See generally* Fed. R. Evid. 502; Cal. Code

19 Evid. § 954. Inadvertent production of any information or documents that are privileged or otherwise

20 immune from discovery shall not constitute a waiver of any privilege or of any other ground for

21 objecting to the discovery with respect to such information or documents or the subject matter

22 thereof, or the right of Facebook to object to the use of any such information or documents or the

23 subject matter thereof during these or any other proceedings.   In the event of inadvertent disclosure

24 of any information or inadvertent production or identification of documents or communications that

25 are privileged or otherwise immune from discovery, Plaintiffs will return the information and

26 documents to Facebook and will be precluded from disclosing or relying upon such information or

27 documents in any way.

28   6. Facebook objects to each and every Interrogatory to the extent that the information

2

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1 sought by the Interrogatory is more appropriately pursued through another means of discovery, such

2 as a request for production or deposition.

3   7.   Facebook objects to each and every Interrogatory, Definition, and Instruction to the

4 extent that it seeks information outside of Facebook's possession, custody, and control.

5   8.   Facebook objects to each Interrogatory to the extent that it requests information

6 protected by the right of privacy of Facebook and/or third parties, or information that is confidential,

7 proprietary, or competitively sensitive.

8   9.   Facebook objects to each Interrogatory to the extent that it seeks documents or

9 information already in Plaintiffs' possession or available in the public domain. Such information is

10 equally available to Plaintiffs.

11   10.   Facebook objects to each Interrogatory on the ground and to the extent that it exceeds

12 the bounds of Federal Rule of Civil Procedure 33(a)(1), which provides that "a party may serve on

13 any other party no more than 25 written interrogatories, including all discrete subparts."

14   **OBJECTIONS TO DEFINITIONS**

15   1.   Facebook objects to Plaintiffs' definition of "Association" to the extent that it is

16 vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition

17 to the extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to

18 the claims and defenses in this action.

19   2.   Facebook objects to Plaintiffs' definition of "Association Type" or "(atype)" to the

20 extent that it is vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects

21 to the definition to the extent that Plaintiffs purport to use this defined term to seek materials that are

22 not relevant to the claims and defenses in this action.

23   3.   Facebook generally objects to Plaintiffs' definitions of "Communication,"

24 "Document(s)," "Electronic Media," "ESI," "Electronically Stored Information," "Identify," and

25 "Metadata" to the extent that Plaintiffs purport to use these defined terms to request the identification

26 and disclosure of documents that: (a) were prepared in anticipation of litigation; (b) constitute

27 attorney work product; (c) reveal privileged attorney-client communications; or (d) are otherwise

28 protected from disclosure under any applicable privileges, laws, and/or rules. Facebook further

3

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1 objects to the extent that these definitions purport to impose obligations that go beyond the

2 requirements of the Federal and Local Rules.

3   4.   Facebook objects to Plaintiffs' definition of "Destination Object" or "(id2)" to the

4 extent that it is vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects

5 to the definition to the extent that Plaintiffs purport to use this defined term to seek materials that are

6 not relevant to the claims and defenses in this action.

7   5.   Facebook objects to Plaintiffs' definition of "(id)" to the extent that it is vague,

8 ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition to the

9 extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to the

10 claims and defenses in this action.

11   6.   Facebook objects to Plaintiffs' definition of "Key -> Value Pair" to the extent that it is

12 vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition

13 to the extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to

14 the claims and defenses in this action.

15   7.   Facebook objects to Plaintiffs' definition of "Object" to the extent that it is vague,

16 ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition to the

17 extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to the

18 claims and defenses in this action.

19   8.   Facebook objects to Plaintiffs' definition of "Object type" or "(otype)" to the extent

20 that it is vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects to the

21 definition to the extent that Plaintiffs purport to use this defined term to seek materials that are not

22 relevant to the claims and defenses in this action.

23   9.   Facebook objects to Plaintiffs' definition and use of the term "Person" as vague,

24 ambiguous, overly broad, and unduly burdensome to the extent that Plaintiffs intend to use this term

25 to include "any natural person or any business, legal or governmental entity or association" over

26 which Facebook exercises no control.

27   10.   Facebook objects to Plaintiffs' definition of "Process" to the extent that it is vague,

28 ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition to the

4

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1 extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to the

2 claims and defenses in this action.

3   11.   Facebook objects to Plaintiffs' definition of "Private Message(s)" to the extent that it

4 is vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects to the

5 definition to the extent that Plaintiffs purport to use this defined term to seek materials that are not

6 relevant to the claims and defenses in this action.

7   12.   Facebook objects to Plaintiffs' definitions of "Relate(s) to," "Related to" and

8 "Relating to" on the ground that the definitions make the Interrogatories overly broad and unduly

9 burdensome and impose obligations that go beyond the requirements of the Federal and Local Rules.

10 Facebook shall construe these terms as commonly and ordinarily understood.

11   13.   Facebook objects to Plaintiffs' definition of "Source Object" or "(id1)" to the extent

12 that it is vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects to the

13 definition to the extent that Plaintiffs purport to use this defined term to seek materials that are not

14 relevant to the claims and defenses in this action.

15   14.   Facebook objects to Plaintiffs' definition and use of the terms "You," "Your," or

16 "Facebook" as vague, ambiguous, overly broad, and unduly burdensome to the extent the terms are

17 meant to include "directors, officers, employees, partners, members, representatives, agents

18 (including attorneys, accountants, consultants, investment advisors or bankers), and any other person

19 purporting to act on [Facebook, Inc.'s] behalf. . . . parents, subsidiaries, affiliates, predecessor

20 entities, successor entities, divisions, departments, groups, acquired entities and/or related entities or

21 any other entity acting or purporting to act on its behalf" over which Facebook exercises no control,

22 and to the extent that Plaintiffs purport to use these terms to impose obligations that go beyond the

23 requirements of the Federal and Local Rules.

24   **OBJECTIONS TO "RULES OF CONSTRUCTION" AND INSTRUCTIONS**

25   1.   Facebook objects to Plaintiffs' "Rules of Construction" and "Instructions" to the

26 extent they impose obligations that go beyond the requirements of the Federal and Local Rules.

27   2.   Facebook objects to Plaintiffs' Instruction No. 2 to the extent that it is not limited to

28 the relevant time period, thus making the Instruction overly broad, unduly burdensome, and not

5

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1 relevant to the claims or defenses in this action. Unless otherwise specified in its responses, and

2 pursuant to the agreement of the parties, Facebook's response will be limited to information

3 generated between April 1, 2010 and December 30, 2013.

4   3.   Facebook objects to Plaintiffs' Instruction No. 6 as ambiguous and unduly

5 burdensome. Facebook further objects to the instruction to the extent it exceeds the requirements of

6 the Federal and Local Rules.

7 **OBJECTION TO PURPORTED "RELEVANT TIME PERIOD"**

8   Facebook objects to Plaintiffs' proposed "Relevant Time Period" (September 26, 2006

9 through the present) because it substantially exceeds the proposed class period identified in Plaintiffs'

10 Consolidated Amended Complaint, does not reflect the time period that is relevant to Plaintiffs'

11 claims in this action, and renders the Interrogatories overly broad, unduly burdensome, and irrelevant.

12 Unless otherwise specified, and pursuant to the agreement of the parties, Facebook's Responses to

13 these Interrogatories will be limited to information generated between April 1, 2010 and December

14 30, 2013. Facebook otherwise objects to the remainder of Plaintiffs' statement regarding the

15 "Relevant Time Period" to the extent that it purports to impose obligations beyond those imposed by

16 the Federal and Local Rules.

17 **SPECIFIC RESPONSES AND OBJECTIONS**

18 **INTERROGATORY NO. 8:**

19   Identify all facts relating to the Processing of each Private Message sent or received by

20 Plaintiffs containing a URL[1], including, for each Private Message:

21   (A)   all Objects that were created during the Processing of the Private Message, including

22   the (id) and the Object Type for each Object, as well as any Key -> Value Pair(s)

23   contained in each Object;

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27 [1] Each such Private Message has been identified by each Plaintiff in Exhibit 1 to his respective Objections and Responses to Defendant's First Set of Interrogatories.

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6

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1   (B)   all Objects that were created specifically when the embedded URL was shared,

2   including the (id) and the Object Type for each Object, as well as any Key -> Value

3   Pair(s) contained in each Object;

4   (C)   all Associations related to each Private Message, identified by the Source Object,

5   Association Type, and Destination Object, as well as any Key -> Value Pair(s)

6   contained in each Association;

7   (D)   the database names and table names in which each Association and Object is stored;

8   (E)   each application or feature in Facebook that uses the Objects or Associations created

9   for each Private Message; and

10   (F)   how each Object associated with the Private Message was used by Facebook.

11 **RESPONSE TO INTERROGATORY NO. 8:**

12   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

13 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

14 forth in this Response. Facebook further objects to this Interrogatory on the following additional

15 grounds:

16   (A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases

17 "Processing"; "Private Message"; "Objects"; "(id)"; "Object Type"; "Key -> Value Pair(s)"; "Objects

18 that were created specifically when the embedded URL was shared"; "Associations"; "Source

19 Object"; "Association Type"; "Destination Object"; "database names and table names"; and

20 "application or feature."

21   (B)   The Interrogatory is compound.

22   (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

23 this action to the extent it concerns practices other than those challenged in this action (the alleged

24 increase in the Facebook "Like" count on a website when the URL for that website was contained in

25 a message transmitted through Facebook's Messages product during the class period).

26   (D)   The Interrogatory is vague, unduly burdensome, and overly broad in that it purports to

27 seek "all facts relating to the Processing of each Private Message sent or received by Plaintiffs

28 containing a URL."

7

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(E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

proprietary company information.

          (F)   The Interrogatory exceeds the bounds of Federal Rule of Civil Procedure 33(a)(1),

which provides that "a party may serve on any other party no more than 25 written interrogatories,

including all discrete subparts."

          Subject to and without waiving the foregoing general and specific objections, and subject to

the ongoing nature of discovery in this action, Facebook responds as follows:

          Facebook refers Plaintiffs to Facebook's Responses and Objections to Plaintiffs' Interrogatory

Nos. 2, 3, and 4. Facebook also will meet and confer with Plaintiffs' counsel to determine the proper

scope of this overly broad and ambiguous Interrogatory.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 8:

          Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

forth in this Response. Facebook further objects to this Interrogatory on the following additional

grounds:

          (A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases

"Processing"; "Private Message"; "Objects"; "(id)"; "Object Type"; "Key -> Value Pair(s)"; "Objects

that were created specifically when the embedded URL was shared"; "Associations"; "Source

Object"; "Association Type"; "Destination Object"; "database names and table names"; and

"application or feature."

          (B)   The Interrogatory is compound.

          (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

this action to the extent it concerns practices other than those challenged in this action (the alleged

increase in the Facebook "Like" count on a website when the URL for that website was contained in

a message transmitted through Facebook's Messages product during the class period).

          (D)   The Interrogatory is vague, unduly burdensome, and overly broad in that it purports to

seek "all facts relating to the Processing of each Private Message sent or received by Plaintiffs

containing a URL."

8

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(E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

proprietary company information.

(F)   The Interrogatory exceeds the bounds of Federal Rule of Civil Procedure 33(a)(1),

which provides that "a party may serve on any other party no more than 25 written interrogatories,

including all discrete subparts."

Subject to and without waiving the foregoing general and specific objections, and subject to

the ongoing nature of discovery in this action, Facebook responds as follows:

Facebook refers Plaintiffs to Facebook's Responses and Objections to Plaintiffs' Interrogatory

Nos. 2, 3, and 4. Additionally, and pursuant to Rule 33(d) of the Federal Rules of Civil Procedure,

Facebook refers Plaintiffs to documents bearing production numbers FB000005502 through

FB000006175, which contain information responsive to this Interrogatory for the messages identified

in Plaintiffs' letter of July 24, 2015 that could be located after a reasonable search and diligent

inquiry. The chart attached as Exhibit 1 identifies the production numbers of the documents that

correspond to the messages identified in Plaintiffs' July 24, 2015 letter.

SECOND SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 8:

Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

forth in this Response. Facebook further objects to this Interrogatory on the following additional

grounds:

(A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases

"Processing"; "Private Message"; "Objects"; "(id)"; "Object Type"; "Key -> Value Pair(s)"; "Objects

that were created specifically when the embedded URL was shared"; "Associations"; "Source

Object"; "Association Type"; "Destination Object"; "database names and table names"; and

"application or feature."

(B)   The Interrogatory is compound.

(C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

this action to the extent it concerns practices other than those challenged in this action (the alleged

DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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1   increase in the Facebook "Like" count on a website when the URL for that website was contained in

2   a message transmitted through Facebook's Messages product during the class period).

3   (D)   The Interrogatory is vague, unduly burdensome, and overly broad in that it purports to

4   seek "all facts relating to the Processing of each Private Message sent or received by Plaintiffs

5   containing a URL."

6   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

7   proprietary company information.

8   (F)   The Interrogatory exceeds the bounds of Federal Rule of Civil Procedure 33(a)(1),

9   which provides that "a party may serve on any other party no more than 25 written interrogatories,

10   including all discrete subparts."

11   Subject to and without waiving the foregoing general and specific objections, and subject to

12   the ongoing nature of discovery in this action, Facebook responds as follows:

13   Facebook has conducted a reasonable inquiry for all "Objects" (as defined by Plaintiffs,

14   explained further below) created at the time that Facebook received information resulting from the

15   drafting or sending of the 19 messages (the "Subject Messages") identified by Plaintiffs in their letter

16   dated July 24, 2015 agreeing to narrow this Interrogatory. Below, Facebook identifies the responsive

17   Objects, as well as other objects (more broadly defined), identified in the course of its inquiry. As

18   will be explained further below, these objects were created *after* the URL or message information

19   was received by and stored on a Facebook server, either before the sender sent the Subject Message

20   or after it was sent to and received by Facebook.

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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Case No. C 13-05996 PJH (MEJ)

APP. 1545

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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Case No. C 13-05996 PJH (MEJ)

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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APP. 1550

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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APP. 1551

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
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APP. 1552

DATED: October 28, 2015   GIBSON, DUNN & CRUTCHER LLP

By: _____ */s/* Joshua A. Jessen _____
                    Joshua A. Jessen

Attorneys for Defendant FACEBOOK, INC.

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
PLAINTIFFS' NARROWED SECOND SET OF INTERROGATORIES
Case No. C 13-05996 PJH (MEJ)

PROOF OF SERVICE

I, Jeana Bisnar Maute, declare as follows:

I am employed in the County of Santa Clara, State of California, I am over the age of eighteen years and am not a party to this action; my business address is 1881 Page Mill Road, Palo Alto, CA 94304-1211, in said County and State. On October 28, 2015, I served the following document(s):

DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO PLAINTIFFS' NARROWED SECOND SET OF INTERROGATORIES

on the parties stated below, by the following means of service:

David F. Slade
dslade@cbplaw.com
James Allen Carney
acarney@cbplaw.com
Joseph Henry Bates, III
Carney Bates & Pulliam, PLLC
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Lieff Cabraser Heimann & Bernstein, LLP
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☑ **BY ELECTRONIC SERVICE**: On the above-mentioned date, based on a court order or an agreement of the parties to accept service by electronic transmission, I caused the documents to be sent to the persons at the electronic notification addresses as shown above.

☑ I am employed in the office of Joshua A. Jessen and am a member of the bar of this court.

☑ I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 28, 2015.

_/s/_ Jeana Bisnar Maute
Jeana Bisnar Maute

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DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO PLAINTIFFS' NARROWED SECOND SET OF INTERROGATORIES
Case No. C 13-05996 PJH (MEJ)

EXHIBIT A

Message					
1	FB000006666	FB000005575	FB000005528	FB000005502	
2	FB000006691	FB000005577			
3	FB000006595	FB000005647	FB000005601	FB000005579	FB000012425
4	FB000006658	FB000005720	FB000005673	FB000005649	FB000011841
5	FB000006610	FB000005798	FB000005750	FB000005722	
6	FB000006642	FB000005800			
7	FB000006650	FB000005880	FB000005827	FB000005802	
10		FB000011876	FB000012993	FB000013201	FB000013572
68	FB000006707	FB000005882			
89	FB000006674	FB000005933	FB000005887	FB000005884	
93	FB000006634	FB000006005	FB000005958	FB000005935	
99	FB000006603	FB000006007			
113	FB000006682	FB000006085	FB000006038	FB000006009	
115		FB000012006			
123	FB000006618	FB000006088			
200	FB000006699	FB000006170	FB000006120	FB000006090	
410		FB000012557			
654	FB000006587	FB000006172	FB000012851	FB000013459	
482	FB000006626	FB000006174	FB000012543	FB000012512	

EXHIBIT A TO DEFENDANT FACEBOOK, INC.'S SECOND SUPPLEMENTAL RESPONSES AND OBJECTIONS TO
PLAINTIFFS' NARROWED SECOND SET OF INTERROGATORIES
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APP. 1555

EXHIBIT NN

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15   UNITED STATES DISTRICT COURT

16   NORTHERN DISTRICT OF CALIFORNIA

17   OAKLAND DIVISION

18 MATTHEW CAMPBELL, MICHAEL   Case No. C 13-05996 PJH
19 HURLEY, and DAVID SHADPOUR,
                                       PUTATIVE CLASS ACTION
20   Plaintiffs,
                                       DEFENDANT FACEBOOK, INC.'S
21   v.   **SUPPLEMENTAL RESPONSES AND**
                                       OBJECTIONS TO PLAINTIFFS' FIRST
22 FACEBOOK, INC.,   **SET OF INTERROGATORIES**

23   Defendant.

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25   **HIGHLY CONFIDENTIAL—ATTORNEYS' EYES ONLY**

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1   Defendant Facebook, Inc. ("Defendant" or "Facebook"), by and through its attorneys, and

2   pursuant to Rules 26 and 33 of the Federal Rules of Civil Procedure, the Local Civil Rules of the U.S.

3   District Court for the Northern District of California, the Court orders in this action, and the parties'

4   agreements, provides the following supplemental responses and objections to Plaintiffs' First Set of

5   Interrogatories (the "Interrogatories").

6   These responses are designated Highly Confidential – Attorney's Eyes Only under the

7   Amended Stipulated Protective Order entered by the Court on July 1, 2015.

8   **PRELIMINARY STATEMENT**

9   1.   Facebook's responses to the Interrogatories are made to the best of Facebook's current

10   knowledge, information and belief. Facebook reserves the right to supplement or amend any of its

11   responses should future investigation indicate that such supplementation or amendment is necessary.

12   2.   Facebook's responses to the Interrogatories are made solely for the purpose of and in

13   relation to this action. Each response is given subject to all appropriate objections (including, but not

14   limited to, objections concerning privilege, competency, relevancy, materiality, propriety and

15   admissibility). All objections are reserved and may be interposed at any time.

16   3.   Facebook's responses are based on its understanding that Plaintiffs seek only that

17   information that is within Facebook's possession, custody, and control.

18   4.   Facebook incorporates by reference each and every general objection set forth into

19   each and every specific response. From time to time, a specific response may repeat a general

20   objection for emphasis or some other reason. The failure to include any general objection in any

21   specific response shall not be interpreted as a waiver of any general objection to that response.

22   5.   Nothing contained in these Reponses and Objections or provided in response to the

23   Interrogatories consists of, or should be construed as, an admission relating to the accuracy,

24   relevance, existence, or nonexistence of any alleged facts or information referenced in any

25   Interrogatory.

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GENERAL OBJECTIONS

1.   Facebook objects to each Interrogatory, including the Definitions and Instructions, to the extent that it purports to impose obligations beyond those imposed by the Federal Rules of Civil Procedure, the Federal Rules of Evidence, the Local Civil Rules of the U.S. District Court for the Northern District of California, and any agreements between the parties.

2.   Facebook objects to each Interrogatory to the extent that it is not limited to the relevant time period, thus making the Interrogatory overly broad, unduly burdensome, and not relevant to the claims or defenses in this action. Unless otherwise specified in its responses, Facebook's response will be limited to information generated between December 30, 2011 and December 20, 2012.

3.   Facebook objects to each Interrogatory to the extent that it seeks information unrelated and irrelevant to the claims or defenses in this litigation and not reasonably calculated to lead to the discovery of admissible evidence.

4.   Facebook objects to each Interrogatory as overly broad and unduly burdensome, particularly in view of Facebook's disproportionate cost necessary to investigate as weighed against Plaintiffs' need for the information. For example, many of the Interrogatories seek broad and vaguely defined categories of materials that are not reasonably tailored to the subject matter of this action.

5.   Facebook objects to each Interrogatory to the extent that it purports to request the identification and disclosure of information or documents that were prepared in anticipation of litigation, constitute attorney work product, reveal privileged attorney-client communications, or are otherwise protected from disclosure under any applicable privileges, laws, or rules. Facebook hereby asserts all such applicable privileges and protections, and excludes privileged and protected information from its responses to each Interrogatory. *See generally* Fed. R. Evid. 502; Cal. Code Evid. § 954. Inadvertent production of any information or documents that are privileged or otherwise immune from discovery shall not constitute a waiver of any privilege or of any other ground for objecting to the discovery with respect to such information or documents or the subject matter

1 thereof, or the right of Facebook to object to the use of any such information or documents or the

2 subject matter thereof during these or any other proceedings.   In the event of inadvertent disclosure

3 of any information or inadvertent production or identification of documents or communications that

4 are privileged or otherwise immune from discovery, Plaintiffs will return the information and

5 documents to Facebook and will be precluded from disclosing or relying upon such information or

6 documents in any way.

7   6.   Facebook objects to each and every Interrogatory to the extent that the information

8 sought by the Interrogatory is more appropriately pursued through another means of discovery, such

9 as a request for production or deposition.

10   7.   Facebook objects to each and every Interrogatory, Definition, and Instruction to the

11 extent that it seeks information outside of Facebook's possession, custody, and control.

12   8.   Facebook objects to each Interrogatory to the extent that it requests information

13 protected by the right of privacy of Facebook and/or third parties, or information that is confidential,

14 proprietary, or competitively sensitive.

15   9.   Facebook objects to each Interrogatory to the extent that it seeks documents or

16 information already in Plaintiffs' possession or available in the public domain. Such information is

17 equally available to Plaintiffs.

18   **OBJECTIONS TO DEFINITIONS**

19   1.   Facebook objects to Plaintiffs' definition of "Active Likes" as vague, ambiguous,

20 overly broad, and unduly burdensome. Facebook further objects to the definition to the extent that

21 Plaintiffs purport to use this defined term to seek materials that are not relevant to the claims and

22 defenses in this action, particularly as a result of its reference to the undefined term, "Social Plugin."

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25   2.   Facebook objects to Plaintiffs' definition of "Architecture" as vague, ambiguous,

26 overly broad, and unduly burdensome. Facebook further objects to the definition to the extent that

27 Plaintiffs purport to use this defined term to seek materials that are not relevant to the claims and

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1   defenses in this action, particularly as a result of its use of the phrase "including but not limited to"

2   and the undefined term "Your services."

3   3.   Facebook generally objects to Plaintiffs' definitions of "Communication,"

4   "Document(s)," "Electronic Media," "ESI," "Electronically Stored Information," "Identify," and

5   "Metadata" to the extent that Plaintiffs purport to use these defined terms to request the identification

6   and disclosure of documents that: (a) were prepared in anticipation of litigation; (b) constitute

7   attorney work product; (c) reveal privileged attorney-client communications; or (d) are otherwise

8   protected from disclosure under any applicable privileges, laws, and/or rules. Facebook further

9   objects to the extent that these definitions purport to impose obligations that go beyond the

10 requirements of the Federal and Local Rules.

11   4.   Facebook objects to Plaintiffs' definition of "Facebook User Data Profile(s)" as vague,

12 ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition to the

13 extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to the

14 claims and defenses in this action.

15   5.   Facebook objects to Plaintiffs' definition of "Passive Likes" as vague, ambiguous,

16 overly broad, and unduly burdensome. Facebook further objects to the definition to the extent that

17 Plaintiffs purport to use this defined term to seek materials that are not relevant to the claims and

18 defenses in this action. Facebook construes the term "Passive Likes" as it relates to the practice

19 challenged in this action (the alleged increase in the Facebook "Like" count on a website when the

20 URL for that website was contained in a message transmitted through Facebook's Messages product

21 during the class period (December 30, 2011 to approximately December 20, 2012)). Specifically,

22 Facebook construes "Passive Likes" to refer to an increase in the "Like" count on a third-party

23 website resulting from inclusion of that website's URL in a Facebook message during the class

24 period.

25   6.   Facebook objects to Plaintiffs' definition and use of the term "Person" as vague,

26 ambiguous, overly broad, and unduly burdensome to the extent that Plaintiffs intend to use this term

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1   to include "any natural person or any business, legal or governmental entity or association" over

2   which Facebook exercises no control.

3   7.   Facebook objects to Plaintiffs' definition of "Private Message(s)" to the extent that it

4   is vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects to the

5   definition to the extent that Plaintiffs purport to use this defined term to seek materials that are not

6   relevant to the claims and defenses in this action.

7   8.   Facebook objects to Plaintiffs' definition of "Private Message Content" to the extent

8   that it is vague, ambiguous, overly broad, and unduly burdensome. Facebook further objects to the

9   definition to the extent that Plaintiffs purport to use this defined term to seek materials that are not

10   relevant to the claims and defenses in this action. Facebook further objects to this definition on the

11   ground and to the extent it is inconsistent with applicable law.

12   9.   Facebook objects to Plaintiffs' definition of "Private Message Transmission" as vague,

13   ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition to the

14   extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to the

15   claims and defenses in this action. Facebook further objects to this definition on the ground and to

16   the extent it is inconsistent with relevant law.

17   10.   Facebook objects to Plaintiffs' definitions of "Relate(s) to," "Related to" and

18   "Relating to" on the ground that the definitions make the Interrogatories overly broad and unduly

19   burdensome and impose obligations that go beyond the requirements of the Federal and Local Rules.

20   Facebook shall construe these terms as commonly and ordinarily understood.

21   11.   Facebook objects to Plaintiffs' definition of "Targeted Advertising" as vague,

22   ambiguous, overly broad, and unduly burdensome. Facebook further objects to the definition to the

23   extent that Plaintiffs purport to use this defined term to seek materials that are not relevant to the

24   claims and defenses in this action. ██████████████████████████████

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1   12.   Facebook objects to Plaintiffs' definition of "Transmission," "Transmit," and

2 "Transmitting" as vague, ambiguous, overly broad, and unduly burdensome. Facebook further

3 objects to the definition to the extent that Plaintiffs purport to use these terms to seek materials that

4 are not relevant to the claims and defenses in this action.

5   13.   Facebook objects to Plaintiffs' definition and use of the terms "You" or "Your" as

6 vague, ambiguous, overly broad, and unduly burdensome to the extent the terms are meant to include

7 "directors, officers, employees, partners, members, representatives, agents (including attorneys,

8 accountants, consultants, investment advisors or bankers), and any other person purporting to act on

9 [Facebook, Inc.'s] behalf. . . . parents, subsidiaries, affiliates, predecessor entities, successor entities,

10 divisions, departments, groups, acquired entities and/or related entities or any other entity acting or

11 purporting to act on its behalf" over which Facebook exercises no control, and to the extent that

12 Plaintiffs purport to use these terms to impose obligations that go beyond the requirements of the

13 Federal and Local Rules.

14   **OBJECTIONS TO "RULES OF CONSTRUCTION" AND INSTRUCTIONS**

15   1.   Facebook objects to Plaintiffs' "Rules of Construction" and "Instructions" to the

16 extent they impose obligations that go beyond the requirements of the Federal and Local Rules.

17   2.   Facebook objects to Plaintiffs' Instruction No. 2 to the extent that it is not limited to

18 the relevant time period, thus making the Instruction overly broad, unduly burdensome, and not

19 relevant to the claims or defenses in this action. Unless otherwise specified in its responses,

20 Facebook's response will be limited to information generated between December 30, 2011 and

21 December 20, 2012.

22   3.   Facebook objects to Plaintiffs' Instruction No. 6 as ambiguous and unduly

23 burdensome. Facebook further objects to the instruction to the extent it exceeds the requirements of

24 the Federal and Local Rules.

25   **OBJECTION TO PURPORTED "RELEVANT TIME PERIOD"**

26   Facebook objects to Plaintiffs' proposed "Relevant Time Period" (September 26, 2006

27 through the present) because it substantially exceeds the proposed class period identified in Plaintiffs'

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1 Consolidated Amended Complaint, does not reflect the time period that is relevant to Plaintiffs'

2 claims in this action, and renders the Interrogatories overly broad, unduly burdensome, and irrelevant.

3 Unless otherwise specified, Facebook's Responses to these Interrogatories will be limited to

4 information generated between December 30, 2011 and December 20, 2012, which is the proposed

5 class period defined in Plaintiffs' Consolidated Amended Complaint. (*See* Pls.' Consol. Am. Compl.

6 [Dkt. 25] ¶ 59 & n.3.) Facebook otherwise objects to the remainder of Plaintiffs' statement regarding

7 the "Relevant Time Period" to the extent that it purports to impose obligations beyond those imposed

8 by the Federal and Local Rules.

9 <div align="center">**SPECIFIC RESPONSES AND OBJECTIONS**</div>

10 **INTERROGATORY NO. 1:**

11 Identify all persons, including Third Parties and Your current and former employees, known

12 by You to have personal knowledge of any facts or issues involved in this lawsuit, and for each

13 person please identify

14 (A) the party's first and last name;

15 (B) the party's employer, if not You;

16 (C) the party's job title(s); and

17 (D) the nature of the party's personal knowledge of the facts or issues involved in this

18 lawsuit.

19 **RESPONSE TO INTERROGATORY NO. 1:**

20 Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

21 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

22 forth in this Response. Facebook further objects to this Interrogatory on the following additional

23 grounds:

24 (A) The Interrogatory is vague and ambiguous in its use of the terms and phrases "Third

25 Parties"; "any facts or issues involved in this lawsuit"; and "nature of the party's personal knowledge

26 of the facts or issues involved in this lawsuit."

27 (B) The Interrogatory is compound.

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1   (C)   The Interrogatory is overly broad in that it purports to seek information regarding each

2 Facebook employee's "personal knowledge" of "facts or issues involved in this lawsuit," over an

3 extended time period. Facebook will respond to the best of its ability and based on the information

4 known and identified to date.

5   (D) The Interrogatory purports to request employment information that is not relevant to the

6 claims or defenses in this action.

7   Subject to and without waiving the foregoing general and specific objections, and subject to

8 the ongoing nature of discovery in this action, Facebook responds as follows:

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1 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 1:**

2   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

3 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

4 forth in this Response. Facebook further objects to this Interrogatory on the following additional

5 grounds:

6   (A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases "Third

7 Parties"; "any facts or issues involved in this lawsuit"; and "nature of the party's personal knowledge

8 of the facts or issues involved in this lawsuit."

9   (B)   The Interrogatory is compound.

10   (C)   The Interrogatory is overly broad in that it purports to seek information regarding each

11 Facebook employee's "personal knowledge" of "facts or issues involved in this lawsuit," over an

12 extended time period. Facebook will respond to the best of its ability and based on the information

13 known and identified to date.

14   (D) The Interrogatory purports to request employment information that is not relevant to the

15 claims or defenses in this action.

16   Subject to and without waiving the foregoing general and specific objections, and subject to

17 the ongoing nature of discovery in this action, Facebook responds as follows:

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25   Facebook reserves the right to supplement its response to this Interrogatory as its investigation

26   continues.

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1 **INTERROGATORY NO. 2:**

2   Identify by name, purpose, sequence, function and physical location each Process and/or piece

3 of Architecture involved in Private Message Transmission.

4 **RESPONSE TO INTERROGATORY NO. 2:**

5   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

6 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

7 forth in this Response. Facebook further objects to this Interrogatory on the following additional

8 grounds:

9   (A)   The Interrogatory is vague and ambiguous in its use of the phrases "Process and/or

10 piece of Architecture" and "Private Message Transmission."

11   (B)   The Interrogatory is compound.

12   (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

13 this action to the extent it concerns practices other than those challenged in this action (the alleged

14 increase in the Facebook "Like" count on a website when the URL for that website was contained in

15 a message transmitted through Facebook's Messages product during the Class Period (December 30,

16 2011 to October 31, 2012)).

17   (D)   The Interrogatory is overly broad in that it purports to seek information regarding each

18 "Process and/or piece of Architecture involved in" the transmission of Facebook messages over an

19 extended time period. Facebook will respond to the best of its ability and based on the information

20 known and identified to date, and as limited by the practice challenged in this action (as defined

21 above).

22   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

23 proprietary company information.

24   Subject to and without waiving the foregoing general and specific objections, and subject to

25 the ongoing nature of discovery in this action, Facebook responds as follows:

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SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 2:

Facebook restates and incorporates its Preliminary Statement, General Objections, Objections to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set forth in this Response. Facebook further objects to this Interrogatory on the following additional grounds:

(A) The Interrogatory is vague and ambiguous in its use of the phrases "Process and/or piece of Architecture" and "Private Message Transmission."

(B) The Interrogatory is compound.

(C) The Interrogatory seeks information that is not relevant to the claims or defenses in this action to the extent it concerns practices other than those challenged in this action (the alleged increase in the Facebook "Like" count on a website when the URL for that website was contained in a message transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to approximately December 20, 2012)).

(D) The Interrogatory is overly broad in that it purports to seek information regarding each

1 "Process and/or piece of Architecture involved in" the transmission of Facebook messages over an

2 extended time period. Facebook will respond to the best of its ability and based on the information

3 known and identified to date, and as limited by the practice challenged in this action (as defined

4 above).

5   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

6 proprietary company information.

7   Subject to and without waiving the foregoing general and specific objections, and subject to

8 the ongoing nature of discovery in this action, Facebook responds as follows:

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25 **INTERROGATORY NO. 3:**

26 For each Process and/or piece of Architecture identified in Interrogatory No. 2, identify

27 whether – and the manner in which – such Process and/or piece of Architecture scans, analyzes, or

28

1   extracts Private Message Content.

2   **RESPONSE TO INTERROGATORY NO. 3:**

3   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

4 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

5 forth in this Response. Facebook further objects to this Interrogatory on the following additional

6 grounds:

7   (A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases "Process

8 and/or piece of Architecture," "Private Message Content," "scans," "analyzes," and "extracts."

9   (B)   The Interrogatory is compound.

10   (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

11 this action to the extent it concerns practices other than those challenged (the alleged increase in the

12 Facebook "Like" count on a website when the URL for that website was contained in a message

13 transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

14 October 31, 2012)).

15   (D)   The Interrogatory is overly broad in that it purports to seek additional information

16 regarding each "Process and/or piece of Architecture involved in" the transmission of Facebook

17 messages over an extended time period. Facebook will respond to the best of its ability and based on

18 the information known and identified to date, and as limited by the practice challenged in this action

19 (as defined above).

20   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

21 proprietary company information.

22   Subject to and without waiving the foregoing general and specific objections, and subject to

23 the ongoing nature of discovery in this action, Facebook responds as follows:

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12 **<u>SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 3:</u>**

13 Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

14 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

15 forth in this Response. Facebook further objects to this Interrogatory on the following additional

16 grounds:

17 (A) The Interrogatory is vague and ambiguous in its use of the terms and phrases "Process

18 and/or piece of Architecture," "Private Message Content," "scans," "analyzes," and "extracts."

19 (B) The Interrogatory is compound.

20 (C) The Interrogatory seeks information that is not relevant to the claims or defenses in

21 this action to the extent it concerns practices other than those challenged (the alleged increase in the

22 Facebook "Like" count on a website when the URL for that website was contained in a message

23 transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

24 approximately December 20, 2012).

25 (D) The Interrogatory is overly broad in that it purports to seek additional information

26 regarding each "Process and/or piece of Architecture involved in" the transmission of Facebook

27 messages over an extended time period. Facebook will respond to the best of its ability and based on

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Crutcher LLP

1 the information known and identified to date, and as limited by the practice challenged in this action

2 (as defined above).

3   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

4 proprietary company information.

5   Subject to and without waiving the foregoing general and specific objections, and subject to

6 the ongoing nature of discovery in this action, Facebook responds as follows:

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23 **<u>INTERROGATORY NO. 4:</u>**

24   For each Process and/or piece of Architecture identified in Interrogatory No. 3, identify all

25 uses to which the scanned/analyzed/extracted Private Message Content – as well as any additional

26 data, metadata or other content generated therefrom – are put.

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RESPONSE TO INTERROGATORY NO. 4:

Facebook restates and incorporates its Preliminary Statement, General Objections, Objections to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set forth in this Response. Facebook further objects to this Interrogatory on the following additional grounds:

(A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases "Process and/or piece of Architecture," "Private Message Content," "scanned," "analyzed," and "extracted."

(B)   The Interrogatory is compound.

(C)   The Interrogatory seeks information that is not relevant to the claims or defenses in this action to the extent it concerns practices other than those challenged (the alleged increase in the Facebook "Like" count on a website when the URL for that website was contained in a message transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to October 31, 2012)).

(D)   The Interrogatory is overly broad in that it purports to seek additional information regarding each "Process and/or piece of Architecture involved in" the transmission of Facebook messages over an extended time period. Facebook will respond to the best of its ability and based on the information known and identified to date, and as limited by the practice challenged in this action (as defined above).

(E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or proprietary company information.

Subject to and without waiving the foregoing general and specific objections, and subject to the ongoing nature of discovery in this action, Facebook responds as follows:

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SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 4:

Facebook restates and incorporates its Preliminary Statement, General Objections, Objections to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set forth in this Response. Facebook further objects to this Interrogatory on the following additional grounds:

(A) The Interrogatory is vague and ambiguous in its use of the terms and phrases "Process and/or piece of Architecture," "Private Message Content," "scanned," "analyzed," and "extracted."

(B) The Interrogatory is compound.

(C) The Interrogatory seeks information that is not relevant to the claims or defenses in this action to the extent it concerns practices other than those challenged (the alleged increase in the Facebook "Like" count on a website when the URL for that website was contained in a message transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to approximately December 20, 2012)).

(D) The Interrogatory is overly broad in that it purports to seek additional information regarding each "Process and/or piece of Architecture involved in" the transmission of Facebook messages over an extended time period. Facebook will respond to the best of its ability and based on the information known and identified to date, and as limited by the practice challenged in this action (as defined above).

(E) The Interrogatory seeks information that reflects trade secrets, confidential, and/or proprietary company information.

Subject to and without waiving the foregoing general and specific objections, and subject to the ongoing nature of discovery in this action, Facebook responds as follows:

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Gibson, Dunn &
Crutcher LLP

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16 **INTERROGATORY NO. 5:**

17 Identify by name, purpose, sequence, function and physical location each Process and/or piece

18 of Architecture involved in the creation, development, or maintenance of Facebook User Profiles.

19 **RESPONSE TO INTERROGATORY NO. 5:**

20 Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

21 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

22 forth in this Response. Facebook further objects to this Interrogatory on the following additional

23 grounds:

24 (A) The Interrogatory is vague and ambiguous in its use of the terms and phrases "Process

25 and/or piece of Architecture," "Facebook User Profiles," "purpose," "sequence," "function," and

26 "physical location."

27 (B) The Interrogatory is compound.

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1 (C) The Interrogatory seeks information that is not relevant to the claims or defenses in

2 this action to the extent it concerns practices other than those challenged (the alleged increase in the

3 Facebook "Like" count on a website when the URL for that website was contained in a message

4 transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

5 October 31, 2012)).

6 (D) The Interrogatory is overly broad in that it purports to seek information regarding each

7 "Process and/or piece of Architecture involved in the creation, development, or maintenance of

8 Facebook User Profiles" over an extended time period. Facebook will respond to the best of its

9 ability and based on the information known and identified to date, and as limited by the practice

10 challenged in this action (as defined above).

11 (E) The Interrogatory seeks information that reflects trade secrets, confidential, and/or

12 proprietary company information.

13 Subject to and without waiving the foregoing general and specific objections, and subject to

14 the ongoing nature of discovery in this action, Facebook responds as follows:

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19 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 5:**

20   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

21 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

22 forth in this Response. Facebook further objects to this Interrogatory on the following additional

23 grounds:

24   (A) The Interrogatory is vague and ambiguous in its use of the terms and phrases "Process

25 and/or piece of Architecture," "Facebook User Profiles," "purpose," "sequence," "function," and

26 "physical location."

27   (B) The Interrogatory is compound.

28

1   (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

2   this action to the extent it concerns practices other than those challenged (the alleged increase in the

3   Facebook "Like" count on a website when the URL for that website was contained in a message

4   transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

5   approximately December 20, 2012)).

6   (D)   The Interrogatory is overly broad in that it purports to seek information regarding each

7   "Process and/or piece of Architecture involved in the creation, development, or maintenance of

8   Facebook User Profiles" over an extended time period. Facebook will respond to the best of its

9   ability and based on the information known and identified to date, and as limited by the practice

10   challenged in this action (as defined above).

11   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

12   proprietary company information.

13   Subject to and without waiving the foregoing general and specific objections, and subject to

14   the ongoing nature of discovery in this action, Facebook responds as follows:

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19 **INTERROGATORY NO. 6:**

20   Identify all possible fields or data points that can comprise a Facebook User Profile.

21 **RESPONSE TO INTERROGATORY NO. 6:**

22   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

23 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

24 forth in this Response. Facebook further objects to this Interrogatory on the following additional

25 grounds:

26   (A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases

27 "Facebook User Profile" and "all possible fields or data points."

28

1   (B)   The Interrogatory is compound.

2   (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

3   this action to the extent it concerns practices other than those challenged (the alleged increase in the

4   Facebook "Like" count on a website when the URL for that website was contained in a message

5   transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

6   October 31, 2012)).

7   (D)   The Interrogatory is overly broad in that it purports to seek information regarding "all

8   possible fields or data points that can comprise a Facebook User Profile" over an extended time

9   period. Facebook will respond to the best of its ability and based on the information known and

10   identified to date, and as limited by the practice challenged in this action (as defined above).

11   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

12   proprietary company information.

13   Subject to and without waiving the foregoing general and specific objections, and subject to

14   the ongoing nature of discovery in this action, Facebook responds as follows:

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SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 6:

Facebook restates and incorporates its Preliminary Statement, General Objections, Objections to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set forth in this Response. Facebook further objects to this Interrogatory on the following additional grounds:

(A)   The Interrogatory is vague and ambiguous in its use of the terms and phrases "Facebook User Profile" and "all possible fields or data points."

(B)   The Interrogatory is compound.

(C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

1 this action to the extent it concerns practices other than those challenged (the alleged increase in the

2 Facebook "Like" count on a website when the URL for that website was contained in a message

3 transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

4 approximately December 20, 2012)).

5 (D) The Interrogatory is overly broad in that it purports to seek information regarding "all

6 possible fields or data points that can comprise a Facebook User Profile" over an extended time

7 period. Facebook will respond to the best of its ability and based on the information known and

8 identified to date, and as limited by the practice challenged in this action (as defined above).

9 (E) The Interrogatory seeks information that reflects trade secrets, confidential, and/or

10 proprietary company information.

11 Subject to and without waiving the foregoing general and specific objections, and subject to

12 the ongoing nature of discovery in this action, Facebook responds as follows:

13 ███

14 ██

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24 ██

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26 ██

27 ████

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1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 **INTERROGATORY NO. 7:**

18   For each field or data point identified in Interrogatory No. 6, identify whether – and the

19 manner in which – such field or data point can be accessed, in any form, by Third Parties, including

20 but not limited to Developers, Third Party websites, and Facebook Users.

21 **RESPONSE TO INTERROGATORY NO. 7:**

22   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

23 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

24 forth in this Response. Facebook further objects to this Interrogatory on the following additional

25 grounds:

26   (A)   The Interrogatory is vague and ambiguous in its use of the terms "field," "data point,"

27 "Developers," and "Third Party websites."

28

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Crutcher LLP

1   (B)   The Interrogatory is compound.

2   (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

3 this action to the extent it concerns practices other than those challenged (the alleged increase in the

4 Facebook "Like" count on a website when the URL for that website was contained in a message

5 transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

6 October 31, 2012)). Facebook interprets this Interrogatory as limited to the practice challenged in

7 this action.

8   (D)   The Interrogatory is overly broad in that it purports to seek information regarding

9 "each field or data point identified in Interrogatory No. 6" over an extended time period. Facebook

10 will respond to the best of its ability and based on the information known and identified to date, and

11 as limited by the practice challenged in this action (as defined above).

12   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

13 proprietary company information.

14   Subject to and without waiving the foregoing general and specific objections, and subject to

15 the ongoing nature of discovery in this action, Facebook responds as follows:

16 ██

17 ███████████████████████████████████

18 ██

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21 ███████████████████████████████

22 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 7:**

23   Facebook restates and incorporates its Preliminary Statement, General Objections, Objections

24 to "Rules of Construction," Instructions, and Purported "Relevant Time Period" as though fully set

25 forth in this Response. Facebook further objects to this Interrogatory on the following additional

26 grounds:

27

28

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1   (A)   The Interrogatory is vague and ambiguous in its use of the terms "field," "data point,"

2   "Developers," and "Third Party websites."

3   (B)   The Interrogatory is compound.

4   (C)   The Interrogatory seeks information that is not relevant to the claims or defenses in

5   this action to the extent it concerns practices other than those challenged (the alleged increase in the

6   Facebook "Like" count on a website when the URL for that website was contained in a message

7   transmitted through Facebook's Messages product during the Class Period (December 30, 2011 to

8   approximately December 20, 2012)). Facebook interprets this Interrogatory as limited to the practice

9   challenged in this action.

10   (D)   The Interrogatory is overly broad in that it purports to seek information regarding

11   "each field or data point identified in Interrogatory No. 6" over an extended time period. Facebook

12   will respond to the best of its ability and based on the information known and identified to date, and

13   as limited by the practice challenged in this action (as defined above).

14   (E)   The Interrogatory seeks information that reflects trade secrets, confidential, and/or

15   proprietary company information.

16   Subject to and without waiving the foregoing general and specific objections, and subject to

17   the ongoing nature of discovery in this action, Facebook responds as follows:

18   ██

19   ██

20   ██

21   ███

22   ██

23   ██

24   DATED: September 8, 2015   GIBSON, DUNN & CRUTCHER LLP

25   By: _____/s/ Joshua A. Jessen_____

26   Joshua A. Jessen

27   Attorneys for Defendant FACEBOOK, INC.

28

VERIFICATION

I, Alex Himel, declare as follows:

I am an Engineering Director at Defendant Facebook, Inc. ("Facebook") and am authorized to execute this Verification on behalf of Facebook. I have read the foregoing DEFENDANT FACEBOOK, INC.'S SUPPLEMENTAL RESPONSES AND OBJECTIONS TO PLAINTIFFS' FIRST SET OF INTERROGATORIES. I understand that the facts stated in Facebook's Responses were assembled by authorized employees, agents, and/or legal representatives of Facebook and am informed and believed that, subject to any inadvertent errors or omissions, the information contained in those Responses is true and correct based on the records of Facebook and information reasonably available to its employees, agents, and/or legal representatives. Facebook reserves the right to correct any inadvertent errors or omissions in this document that may come to its attention.

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 Verification was executed on September __, 2015 in Menlo Park, California.

_____
Alex Himel

Gibson, Dunn &
Crutcher LLP

DEFENDANT FACEBOOK, INC.'S SUPPLEMENTAL RESPONSES AND OBJECTIONS TO PLAINTIFFS' FIRST SET OF INTERROGATORIES
Case No. C 13-05996 PJH

PROOF OF SERVICE

2   I, Ashley M. Rogers, declare as follows:

3   I am employed in the County of Santa Clara, State of California, I am over the age of eighteen
years and am not a party to this action; my business address is 1881 Page Mill Road, Palo Alto, CA

4   94304-1211, in said County and State. On September 8, 2015, I served the following document(s):

5   **DEFENDANT FACEBOOK, INC.'S SUPPLEMENTAL RESPONSES AND
           OBJECTIONS TO PLAINTIFFS' FIRST SET OF INTERROGATORIES**

6

7   on the parties stated below, by the following means of service:

8   David F. Slade
           dslade@cbplaw.com

9   James Allen Carney
           acarney@cbplaw.com

10   Joseph Henry Bates, III
           Carney Bates & Pulliam, PLLC

11   hbates@cbplaw.com

12
           Melissa Ann Gardner

13   mgardner@lchb.com
           Nicholas Diamand

14   ndiamand@lchb.com
           Rachel Geman

15   rgeman@lchb.com

16   Michael W. Sobol
           Lieff Cabraser Heimann & Bernstein, LLP

17   msobol@lchb.com

18

19   ☑   **BY ELECTRONIC SERVICE**: On the above-mentioned date based on an agreement of
           the parties to accept service by electronic transmission, I caused the document to be sent to

20   the persons at the electronic notification addresses as shown above.

21   ☑   I am employed in the office of Joshua A. Jessen and am a member of the bar of this court.

22   ☑   I declare under penalty of perjury that the foregoing is true and correct.

23
           Executed on September 8, 2015.

24

25   _____
                                                              /s/
                                                      Ashley M. Rogers

26

27

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Gibson, Dunn &
Crutcher LLP

EXHIBIT OO

1 GIBSON, DUNN & CRUTCHER LLP
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12 Attorneys for Defendant
   FACEBOOK, INC.
13

14   UNITED STATES DISTRICT COURT

15   NORTHERN DISTRICT OF CALIFORNIA

16   OAKLAND DIVISON

17 MATTHEW CAMPBELL, MICHAEL   Case No. C 13-05996 PJH (MEJ)
   HURLEY, and DAVID SHADPOUR,
18   **PUTATIVE CLASS ACTION**
            Plaintiffs,
19   **DECLARATION OF ALEX HIMEL
       v.   ON BEHALF OF DEFENDANT
20   FACEBOOK, INC.**
   FACEBOOK, INC.,
21
            Defendant.
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              HIGHLY CONFIDENTIAL—ATTORNEYS' EYES ONLY
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Crutcher LLP

I, Alex Himel, declare as follows:

1.   I have been employed as a software engineer at Facebook since April 2009, and my current title is Engineering Director. From 2009-2014, I worked on Facebook's Developer Platform, and my work encompassed Facebook's "Share" button, Facebook's "Like" button, and the code that keeps track of the "count" features associated with "Share" and "Like." I have personal knowledge of the matters stated herein and, if called as a witness, could and would testify competently thereto. I provide this Declaration to explain certain facts regarding Facebook's software code as it relates to detecting uniform resource locators ("URLs") in messages sent and received through the Facebook platform and the relationship of any such URLs to certain social plugins served by Facebook and visible on third-party websites. In particular, I refer below to the count associated with a Facebook "Like" social plugin on third-party websites (the "Like" count). I also explain the termination of related practices in October and December 2012.

2.   I understand the purported class in this action to consist of Facebook users located within the United States who have sent or received messages that included URLs in the body of the message from December 30, 2011 until in or around late 2012, when the practice of including URL shares in messages in the count on third-party websites ceased ("the Relevant Period").

Facebook's Source Code

3.   Attached as Exhibits A through G are true and correct copies of documents from an internal Facebook system ███. These documents, ████████████████████████████████ include the date o██████ ██████, a description ████████████, and the ████████████████████████████. The relevant ████ ████████████ is on the left, and the relevant ████████████████ is on the right. ████████ ██ ████████████████████.

4.   To the extent that the above-mentioned documents contain source code, this code has been redacted for several reasons.

1   5.   First, Facebook's source code is a closely guarded trade secret of enormous economic

2   value. Providing it to outside parties increases the risk of further disclosure and therefore poses a risk

3   of substantial competitive harm. Disclosure of source code outside of Facebook erodes Facebook's

4   efforts to protect the code in which Facebook has invested significant resources and which comprises

5   a significant part of Facebook's product offering and competitive advantage. Indeed, the code

6   reflected in ███████████ is the product of thousands of engineering hours. Revealing the code

7   that generates Facebook's proprietary design and functionalities could cause catastrophic competitive

8   harm by allowing others to replicate that design and functionality without making the same

9   investment of time, money, and personnel.

10   6.   Second, disclosing portions of Facebook's source code would reveal the methods used

11   to protect Facebook's users and the integrity of the Facebook platform, and could undermine both of

12   these efforts. Facebook's source code includes complex safety and security features that detect spam,

13   detect and prevent abuse of the system, and protect users from malware, among other things. These

14   features not only provide for a better and more enjoyable product (another competitive advantage for

15   Facebook), but also protect Facebook and its users from harm and loss associated with unsolicited

16   and dangerous content and activities by third parties. The effectiveness of these systems depends in

17   part on their secrecy. Disclosure of Facebook's security methods would potentially allow hackers

18   and abusers to threaten users and the system.

19   7.   In the context of certain types of litigation (such as patent litigation) where there may

20   be a legitimate need for source code inspection, I am aware that Facebook negotiates specific

21   protections for source code and implements detailed and time-consuming protocols for handling

22   source code, as well as extensive limitations on the use of source code materials, disclosure, and

23   future restrictions on the conduct of individuals exposed to source code materials.

24   8.   In the present case, evidence other than source code is available to demonstrate the

25   processes and functionality at issue. In particular, the non-code information embodied in ████████

26   ███████████████████████████████████—effectively demonstrates the processes and

27   functionality at issue. Additionally, the source code for the processes and functionality at issue is not

28

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1 limited or contained in any discrete way; that is, it is interconnected with other source code at

2 Facebook. Therefore, if Facebook were required to make source code available in this matter, it

3 would have little choice but to grant access to a significant amount of source code that has nothing to

4 do with the allegations in this case.

5 **Share and Like Functionality**

6   9.   During the Relevant Period, Facebook offered websites "social plugins," or units of

7 embeddable code that allow users to share information using Facebook directly from third-party

8 websites. A third-party website may have embedded code for the Facebook "Like" button plugin on

9 its website, enabling Facebook users to directly "Like" the website and to share that action with their

10 Facebook connections (without having to return to https://www.facebook.com or the Facebook

11 mobile app to share the content). The "Like" button plugin also may have displayed an anonymous

12 and aggregate count of all "Likes" for that particular website (the above-referenced "Like" count).

13 Facebook also offered a "Share" button, which also may have displayed an anonymous and aggregate

14 count of all "Shares" for that particular website (the "Share" count).

15   10.   In September 2009, Facebook enabled functionality that would ultimately allow third-

16 party website developers to provide a count associated with a "Share" button on their websites.

17 Attached as Exhibit A is a ████████████████████████████

18 ██

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26 ██

27 ██

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1 ███████████████████████████████████████ Ex. A at 5, 7-8. In addition to

2 the overall "Share count," third-party website developers also could view the public API statistics

3 indicating how many times a particular URL was shared. The public API statistics did not include

4 statistics indicating (specifically or by inference) how many times a given URL was shared using the

5 "Share" button and choosing "in a private message."

6   11.   In October 2009, Facebook ██████████████████████████

7 ███

8 ██

9 ██

10 ██

11 ███

12 ███

13 ███████████████████████████████ Ex. B at 3-5.

14   12.   At our F8 Developer Conference on April 21, 2010, Facebook announced the public

15 launch of the "Like" button, which also included a count feature reflecting the number of times a user

16 had clicked or commented on the "Like" button on that third-party website. The ████████

17 ███

18 ███

19 ██.

20   13.   In May 2010, Facebook ███████████████████████████. Attached as

21 Exhibit C is a ████████████████████████████████

22 ███

23 ███

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1 ██

2 ██

3 ██

4 ██████████████████████████ Ex. C at 5.

5 **URL Preview**

6   14.   During the Relevant Period, Facebook's service included a Messages product, which

7 allowed users to exchange messages that could be viewed in the recipient user's Messages folder.

8 Beginning in August 2010, Facebook's source code included functionality supporting a feature

9 ██

10 ██

11 ██

12 ███████████████████████

13   15.   ██

14 ███—including a brief description of the

15 URL and, if available, a relevant image from the website, as illustrated by the example below:

16

17 www.nytimes.com

18 **The New York Times - Breaking News, World News & Multimedia**
www.nytimes.com

19 Find breaking news, multimedia, reviews & opinion on

20 Washington, business, sports, movies, travel, books, jobs, education, real estate, cars & more at nytimes.com.

21 1 of 3 Choose a Thumbnail

  No Thumbnail

22   Add Files   Add Photos   Press Enter to send Send

23   16.   ██

24 ██

25 ██

26 ██

27

28

1 ███

2 ████████████████████.
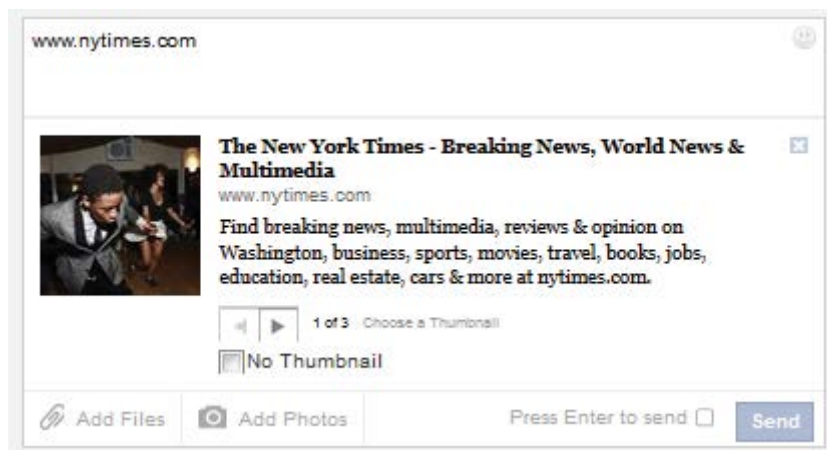
3   17.   If a user proceeded to send a message, ████████████████

4 ██

5 ███████████████████████████████████████.

6 ██

7 ██

8 █████████████████████████████████. █████████████████████

9 ████████████████████████████████████[1] ████████

10 ██

11 ████████████████████.

12   18.   Attached as Exhibit D is the ██████████████████████

13 ██.[2] As

14 described ██

15 ██

16 ██

17 ██

18 ██

19 ██

20 ████████████████████████████████████

21

22   [1] ██

23 ██

24 ██

25 ██

26 ██

27   [2] "Titan" was the internal name for the Facebook Messages product.

28

1 ██

2 ████████████████████████████

3 **Modification of the Like and Share Counts**

4 19. ██

5 ██

6 "Like" and "Share" counts visible on third-party websites that embedded those social plugins.

7 20. On or around October 4, 2012, I was made aware of a bug that resulted in an increase

8 of the "Like" count by 2 for each URL attachment sent with a message. I then ████████████████

9 ██

10 ████████████████████████ Exhibit E is a ████████████████████████

11 ██

12 ██

13 I wrote, '██

14 ██

15 ██

16 ████████████████████████ ' Ex. E at 1-2. Revised lines 32-45 show that ████████████

17 ██

18 ██

19 ██

20 21. A few days later, I ████████████████████████████████████

21 Attached as Exhibit F is a ████████████████████████████████ reflecting

22 ██

23 ██

24 ██

25 ██

26 ██ ' Ex. F at 3-4. For instance, revised

27 lines 16-27 demonstrate that ████████████████████████████████

28

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DECLARATION OF ALEX HIMEL ON BEHALF OF DEFENDANT FACEBOOK. INC.

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Ex. E at 4.

22. My ████████████████████████████

████████████████████████████ However, I later learned that my

████████████████████████████ and, in December 2012, Facebook ████

Revised

lines 131-132 demonstrate the ████████████████████████████

Ex. G at 7.

Revised lines 293-299 likewise demonstrate that ████████████████████

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 June 1, 2015 in Menlo Park,
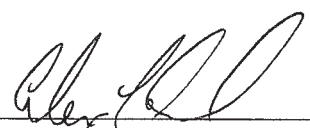
California.

_____
Alex Himel

DECLARATION OF ALEX HIMEL ON BEHALF OF DEFENDANT FACEBOOK. INC.

Gibson, Dunn &
Crutcher LLP

APP. 1615

EXHIBIT A

App. 1617-1692
Filed Under Seal