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14 BLACKBERRY CORPORATION

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22
23 IN THE UNITED STATES DISTRICT COURT
24 FOR THE CENTRAL DISTRICT OF CALIFORNIA
25
26

27 BLACKBERRY LIMITED, a
28 Canadian corporation,

Plaintiff,

v.

FACEBOOK, INC., a Delaware
corporation, WHATSAPP INC., a
Delaware corporation, and
INSTAGRAM, INC., a Delaware
corporation, and INSTAGRAM, LLC,
a Delaware limited liability company

Defendants.

CASE NO. 2:18-cv-01844

**[FIRST AMENDED]
COMPLAINT FOR PATENT
INFRINGEMENT**

JURY TRIAL DEMANDED

Case No. 2:18-cv-01844

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

1 **COMPLAINT FOR PATENT INFRINGEMENT**

2 Plaintiff BlackBerry Limited (“BlackBerry” or “Plaintiff”) hereby asserts the
3 following claims for patent infringement against Defendants Facebook, Inc.,
4 WhatsApp Inc., Instagram, Inc., and Instagram, LLC (collectively, “Defendants”),
5 and alleges as follows:

6 **SUMMARY**

7 1. ***BlackBerry Pioneers Mobile Messaging*** - BlackBerry has been a
8 leading innovator in the field of mobile communications for the past 30 years,
9 having invested substantial sums into research and development of communications
10 technologies. BlackBerry’s innovations led to the commercialization of some of the
11 earliest models of smartphones in the United States, enabling its users to, among
12 other things, send and receive e-mails securely and surf the internet anytime and
13 anywhere. These same innovations prompted the rise of the smartphone as a
14 necessary everyday accessory for businesspersons and ordinary consumers alike.

15 2. One example of BlackBerry’s innovations is the BlackBerry Messenger
16 technology, which revolutionized instant messaging by providing users with secure,
17 user-friendly, point-to-point instant messaging on their mobile devices. In many
18 respects, through BlackBerry Messenger and other research and development,
19 BlackBerry helped pioneer modern mobile messaging—secure, instant and user
20 friendly on a mobile device. The appeal and success of BlackBerry Messenger led
21 consumers to consider instant messaging functionality as an integral aspect of
22 mobile communications, resulting today in billions of people worldwide engaging in
23 instant messaging over their mobile device.

24 3. As an innovator, BlackBerry took many steps to safeguard this valuable
25 intellectual property. It received numerous patents protecting the cutting-edge
26 features of its mobile phones, BlackBerry Messenger, and other communications
27 applications that make such products secure, easy-to-use, and ultimately engaging to
28 the end-user, thereby driving user growth and retention.

Case No. 2:18-cv-01844

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

1 4. ***Facebook and its Companies Later Develop Competing Applications***
2 ***that Improperly Use BlackBerry's Mobile Messaging Intellectual Property*** -
3 Defendants, on the other hand, are relative latecomers to the mobile messaging
4 world. Defendants created mobile messaging applications that co-opt BlackBerry's
5 innovations, using a number of the innovative security, user interface, and
6 functionality enhancing features that made BlackBerry's products such a critical and
7 commercial success in the first place. These include the features covered by the
8 Patents-in-Suit.

9 5. The Patents-in-Suit cover, for example:

10 (a) ***Security Improvements***—improved cryptographic techniques that
11 establish and maintain security over user messages and provide the requisite
12 trust necessary for user adoption of a messaging platform for their
13 communication needs;

14 (b) ***User Interface Improvements For Mobile Devices***—including (i)
15 improvements in message notification techniques that streamline and
16 optimize reception of new message notifications that prevent users from being
17 inundated with numerous messaging notifications, (ii) display of timestamps
18 in a messaging user interface that provides users with appropriate temporal
19 context for their communications without overtaking the user's screen with
20 unnecessary information, and (iii) tagging friends and family in social media
21 photographs;

22 (c) ***Combining Mobile Gaming And Mobile Messaging***—allowing users to
23 more easily interact while playing electronic games;

24 (d) ***Battery Efficient Status Updates for Mobile Devices***—improved
25 techniques for transmitting status updates based on whether a second device is
26 viewing the status updates, to reduce power consumption and improve battery
27 life in mobile devices; and

28 (e) ***Mobile Advertising***—improved techniques of delivering targeted

1 advertising and content to mobile devices based on user demographics and
2 interest, as well as the location of the user's mobile device and time-based
3 triggers.

4 These features, all invented by BlackBerry, are "table stakes" for modern
5 mobile messaging and social networking.

6 6. Thus, Defendants have used BlackBerry's own intellectual property to
7 compete with it in the mobile messaging space. These applications are ever
8 expanding, including Facebook Messenger, Facebook Messenger Lite, Facebook
9 Pages Manager, Facebook.com and Facebook Workplace Chat, the WhatsApp
10 Messenger application made by WhatsApp Inc., and the Instagram application made
11 by Instagram, Inc. and Instagram, LLC. The importance of mobile messaging is
12 emphasized by the reported \$19 billion dollars Facebook spent to acquire
13 WhatsApp.

14 7. ***Defendants' Use of BlackBerry's Mobile Messaging Innovations***
15 ***Harms BlackBerry and Provides Undeserved Windfall to Facebook and its***
16 ***Companies***—Defendants' use of BlackBerry's invention and infringement of the
17 Patents-in-Suit, has succeeded in diverting consumers away from BlackBerry's
18 products and services and toward those of Defendants. This has resulted in a
19 substantial and undeserved windfall for Defendants as these users drive Defendants'
20 revenue. Defendants' gain comes at BlackBerry's expense, depriving BlackBerry of
21 revenue to which it is entitled as a result of its inventions.

22 8. BlackBerry attempted to resolve this dispute without resorting to
23 litigation. It first reached out to Defendants Facebook's and WhatsApp's respective
24 General Counsel in April 2016 – nearly two years ago – regarding BlackBerry's
25 patent portfolio, and followed up with additional communications including emails,
26 calls, and requests for a meeting. Defendants, however, refused to adequately
27 compensate BlackBerry for their use of BlackBerry's intellectual property. Through
28 this suit, BlackBerry seeks redress for the harm caused by Defendants' unlawful use

1 of BlackBerry's intellectual property.

2 **INTRODUCTION TO BLACKBERRY**

3 9. For more than 30 years, BlackBerry has been a leading innovator in the
4 mobile communications industry. BlackBerry's cutting-edge wireless
5 communication products and services have transformed the way people around the
6 world connect, converse, and share digital information.

7 10. BlackBerry was founded in 1984 in Waterloo, Ontario by two
8 engineering students, Mike Lazaridis and Douglas Fregin. In its early years, the
9 company—then named Research In Motion ("RIM")—focused its inventive
10 energies on wireless data transmission.

11 11. From its modest beginnings more than 30 years ago, BlackBerry has
12 gone on to offer a portfolio of award-winning products, services, and embedded
13 technologies to tens of millions of individual consumers and organizations around
14 the world, including governments, and educational institutions. By transforming the
15 way people communicate, BlackBerry laid a foundation for today's multibillion-
16 dollar modern smartphone industry. BlackBerry's innovations in mobile
17 communications continue to this day through BlackBerry's award-winning software
18 platform and devices, which enable and manage security, mobility, and
19 communications between and among hardware, programs, mobile applications, and
20 the Internet of Things (IoT).

21 12. In the course of developing its ground-breaking mobile
22 communications systems, BlackBerry (and the BlackBerry family of companies) has
23 invented a broad array of new technologies that cover everything from enhanced
24 security and cryptographic techniques, to mobile device user interfaces, instant
25 messaging functionality, communication servers, and many other areas. To take just
26 one example, security posed a critical challenge for BlackBerry to address when
27 bringing its mobile devices to market. Commercial acceptance of such mobile
28 devices required providing mechanisms to ensure safe and secure communications

1 so that users and businesses could be confident that their confidential and private
2 information stayed that way in spite of ever increasing threats. Due to its innovative
3 technologies, BlackBerry has been universally recognized as the gold standard when
4 it comes to safe and secure data communications over mobile devices.

5 13. Throughout its history, BlackBerry has demonstrated a commitment to
6 innovation, including through its investments in research and development, which
7 have totaled more than \$5.5 billion over the past decade. BlackBerry has protected
8 the technical innovations resulting from these investments, including through
9 seeking patent protection, and as detailed below, BlackBerry owns rights to an array
10 of patented technologies in the United States.

11 14. BlackBerry owns United States Patent Nos. 7,372,961, 8,279,173,
12 8,209,634, 8,296,351, 8,301,713, 8,429,236, 8,676,929, 8,677,250, and 9,349,120
13 (collectively, the “Patents-in-Suit”). Defendants infringe the BlackBerry Patents-in-
14 Suit by using, without authorization, BlackBerry’s proprietary technologies in a
15 number of their commercial products and services, including, *inter alia*, the
16 Facebook Messenger, WhatsApp Messenger, and Instagram applications, which are
17 marketed, offered and distributed to users of mobile and other devices throughout
18 the United States, including in this District.

19 15. By this action, BlackBerry seeks to put an end to Defendants’
20 unauthorized use of BlackBerry’s patented technologies and to obtain compensation
21 for the harm BlackBerry has suffered.

22 **NATURE OF THE ACTION**

23 16. This is a civil action for patent infringement under the patent laws of
24 the United States, 35 U.S.C. § 1 *et seq.*

25 17. Defendants have infringed and continue to infringe, and have induced
26 and continue to induce infringement of, one or more claims of BlackBerry’s Patents-
27 in-Suit at least by making, using, selling, and/or offering to sell their Facebook.com
28 website, Facebook, Facebook Messenger, Facebook Messenger Lite, Facebook

1 Workplace Chat, Facebook Pages Manager, WhatsApp Messenger, and Instagram
2 applications for mobile and other devices in the United States, including in this
3 District.

4 18. BlackBerry is the legal owner by assignment of the Patents-in-Suit,
5 which were duly and legally issued by the United States Patent and Trademark
6 Office (“USPTO”). BlackBerry seeks injunctive relief and monetary damages.

7 **THE PARTIES**

8 19. Plaintiff BlackBerry Limited is a Canadian company with its principal
9 place of business at 2200 University Avenue East, Waterloo, Ontario, Canada N2K
10 0A7. BlackBerry Limited is the owner of intellectual property rights at issue in this
11 action.

12 20. On information and belief, Defendant Facebook, Inc. (“Facebook”) is a
13 Delaware corporation with a principal place of business at 1 Hacker Way, Menlo
14 Park, CA 94025. On information and belief, Facebook maintains offices in Los
15 Angeles, California, operates and owns the website located at www.facebook.com,
16 and markets, offers, and distributes applications such as the Facebook, Facebook
17 Messenger, Facebook Messenger Lite, Facebook Workplace Chat, and Facebook
18 Pages Manager applications throughout the United States, including in this District.

19 21. On information and belief, Defendant WhatsApp Inc. (“WhatsApp”) is
20 a Delaware corporation and wholly owned subsidiary of Facebook with a principal
21 place of business at 1601 Willow Road, Menlo Park, CA 94025. On information
22 and belief, WhatsApp operates and owns the website located at www.whatsapp.com,
23 and markets, offers, and distributes applications such as the WhatsApp Messenger
24 application throughout the United States, including in this District.

25 22. On information and belief, Defendants Instagram, Inc. and Instagram,
26 LLC (collectively, “Instagram”) are a Delaware corporation and limited liability
27 company, respectively, and wholly owned subsidiaries of Facebook with a principal
28 place of business at 1601 Willow Road, Menlo Park, CA 94025. On information

1 and belief, Instagram operates and owns the website located at www.instagram.com,
2 and markets, offers, and distributes applications such as the Instagram application
3 throughout the United States, including in this District.

4 23. Upon information and belief, each of the Defendants directly and/or
5 indirectly develops, designs, manufactures, distributes, markets, offers to sell and/or
6 sells infringing products and services in the United States, including in the Central
7 District of California, and otherwise purposefully directs infringing activities to this
8 District in connection with the Facebook, Facebook Messenger, Facebook
9 Messenger Lite, Facebook Workplace Chat, Facebook Pages Manager, WhatsApp
10 Messenger, and Instagram applications.

11 24. Upon information and belief and as further explained below,
12 Defendants have been and are acting in concert, and are otherwise liable jointly,
13 severally or otherwise for a right to relief related to or arising out of the same
14 transaction, occurrence or series of transactions or occurrences related to the
15 making, using, selling, offering for sale or otherwise distributing the Facebook,
16 Facebook Messenger, Facebook Messenger Lite, Facebook Workplace Chat, and
17 Facebook Pages Manager, WhatsApp Messenger, and Instagram applications in this
18 District. In addition, this action involves questions of law and fact that are common
19 to all Defendants.

20 25. For example, on information and belief, between 2017 and the filing of
21 this Complaint, Facebook migrated the Instagram and WhatsApp messaging
22 services from third party servers onto Facebook's own data centers.¹ Accordingly,
23 Facebook is acting in concert with WhatsApp and Instagram in connection with the
24 provision of their messaging services.

25
26 ¹ See, e.g., [https://www.cnn.com/2017/06/07/facebook-planning-to-move-](https://www.cnn.com/2017/06/07/facebook-planning-to-move-whatsapp-off-ibms-public-cloud.html)
27 [whatsapp-off-ibms-public-cloud.html](http://www.datacenterknowledge.com/archives/2017/06/12/report-facebook-to-move-whatsapp-from-ibm-cloud-to-own-data-centers);
28 [http://www.datacenterknowledge.com/archives/2017/06/12/report-facebook-to-](http://www.datacenterknowledge.com/archives/2017/06/12/report-facebook-to-move-whatsapp-from-ibm-cloud-to-own-data-centers)
[move-whatsapp-from-ibm-cloud-to-own-data-centers](http://www.datacenterknowledge.com/archives/2017/06/12/report-facebook-to-move-whatsapp-from-ibm-cloud-to-own-data-centers).

JURISDICTION AND VENUE

26. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

27. This Court has subject matter jurisdiction over the matters asserted herein under 28 U.S.C. §§ 1331 and 1338(a) and 35 U.S.C. §§ 271 *et seq.*

28. This Court has personal jurisdiction over Facebook, in part because Facebook does continuous and systematic business in this District, including by providing infringing products and services to the residents of the Central District of California that Facebook knew would be used within this District, and by soliciting business from the residents of the Central District of California. For example, Facebook is subject to personal jurisdiction in this Court because, *inter alia*, and upon information and belief, Facebook has a regular and established place of business at its offices in the Central District of California, including the 35,000 sqft Facebook LA Campus in Playa Vista,² and elsewhere in the State of California, and directly and through agents regularly does, solicits and transacts business in the Central District of California and elsewhere in the State of California, including through its website at www.facebook.com and its Facebook, Facebook Messenger, Facebook Messenger Lite, Facebook Workplace Chat, and Facebook Pages Manager applications marketed, offered, and distributed to and utilized by users of computing and mobile devices in this District and throughout the State of California.

29. In particular, Facebook has committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale, sold, and/or imported infringing products in the State of California, including in this District, and engaged in infringing conduct within and

² See <http://www.latimes.com/business/technology/la-fi-tn-facebook-office-20160514-snap-story.html>; see also <https://www.facebook.com/careers/locations/losangeles/>.

1 directed at or from this District. For example, Facebook has purposefully and
2 voluntarily placed the Facebook website and Facebook, Facebook Messenger,
3 Facebook Messenger Lite, Facebook Workplace Chat, and Facebook Pages
4 Manager applications into the stream of commerce with the expectation that its
5 infringing products will be used in this District. The infringing Facebook, Facebook
6 Messenger, Facebook Messenger Lite, Facebook Workplace Chat, and Facebook
7 Pages Manager applications have been and continue to be distributed to and used in
8 this District. Facebook's acts cause injury to BlackBerry, including within this
9 District.

10 30. This Court has personal jurisdiction over WhatsApp, in part because
11 WhatsApp does continuous and systematic business in this District, including by
12 providing infringing products and services to the residents of the Central District of
13 California that WhatsApp knew would be used within this District, and by soliciting
14 business from the residents of the Central District of California. For example,
15 WhatsApp is subject to personal jurisdiction in this Court because, *inter alia*, and
16 upon information and belief, WhatsApp has a regular and established place of
17 business in the State of California, including on information and belief through the
18 employment of individuals within this judicial district, and directly and through
19 agents regularly does, solicits and transacts business in the Central District of
20 California and elsewhere in the State of California, including through its website at
21 www.whatsapp.com and its WhatsApp Messenger application marketed, offered,
22 and distributed to and utilized by users of mobile devices in this District and
23 throughout the State of California.

24 31. In particular, WhatsApp has committed and continues to commit acts of
25 infringement in violation of 35 U.S.C. § 271, and has made, used, marketed,
26 distributed, offered for sale, sold, and/or imported infringing products in the State of
27 California, including in this District, and engaged in infringing conduct within and
28 directed at or from this District. For example, WhatsApp has purposefully and

1 voluntarily placed the WhatsApp Messenger application into the stream of
2 commerce with the expectation that its infringing product will be used in this
3 District. The infringing WhatsApp Messenger application has been and continues to
4 be distributed to and used in this District. WhatsApp's acts cause injury to
5 BlackBerry, including within this District.

6 32. This Court has personal jurisdiction over Instagram, in part because
7 Instagram does continuous and systematic business in this District, including by
8 providing infringing products and services to the residents of the Central District of
9 California that Instagram knew would be used within this District, and by soliciting
10 business from the residents of the Central District of California. For example,
11 Instagram is subject to personal jurisdiction in this Court because, *inter alia*, and
12 upon information and belief, Instagram has a regular and established place of
13 business in the State of California, including on information and belief through the
14 employment of individuals within this judicial district, and directly and through
15 agents regularly does, solicits and transacts business in the Central District of
16 California and elsewhere in the State of California, including through its website at
17 www.instagram.com and its Instagram application marketed, offered, and
18 distributed to and utilized by users of mobile devices in this District and throughout
19 the State of California.

20 33. In particular, Instagram has committed and continues to commit acts of
21 infringement in violation of 35 U.S.C. § 271, and has made, used, marketed,
22 distributed, offered for sale, sold, and/or imported infringing products in the State of
23 California, including in this District, and engaged in infringing conduct within and
24 directed at or from this District. For example, Instagram has purposefully and
25 voluntarily placed the Instagram application into the stream of commerce with the
26 expectation that its infringing product will be used in this District. The infringing
27 Instagram application has been and continues to be distributed to and used in this
28 District. Instagram's acts cause injury to BlackBerry, including within this District.

34. Venue is proper in this District under the provisions of 28 U.S.C. §§ 1391 and 1400(b) at least because a substantial part of the events or omissions giving rise to the claims occurred in this judicial district, and because Defendants have committed acts of infringement in this District and have a regular and established place of business in this District.

35. In particular, on information and belief, Facebook has a regular and established place of business at its 35,000 square foot Facebook Los Angeles Campus, located in Playa Vista, CA.³ On further information and belief, WhatsApp and Instagram employ engineers and/or other personnel within this district, including personnel at Facebook facilities in this district.⁴

36. On information and belief, WhatsApp and Instagram are wholly owned subsidiaries of Facebook. On information and belief, Facebook does not separately report revenue from Instagram or WhatsApp in its filings to the Securities Exchange Commission, but rather reports combined revenue from its various products including Facebook, WhatsApp, and Instagram. Market analysis indicates that Facebook, WhatsApp, and Instagram and their respective products are viewed in the market as an integrated package with each of the products benefiting from substantial network effects.⁵

³ See <http://www.latimes.com/business/technology/la-fi-tn-facebook-office-20160514-snap-story.html>; see also <https://www.facebook.com/careers/locations/losangeles/>.

⁴ www.LinkedIn.com identifies at least 17 people in this District that are dually employed by both Facebook and one of WhatsApp or Instagram.

⁵ See <https://www.marketwatch.com/story/the-youtube-and-instagram-secret-that-google-and-facebook-dont-want-you-to-know-2018-01-26> (“For some analysts, the question of breaking out revenue for Instagram is moot, however, because the company essentially sells ads for Facebook and Instagram as a single package. . . .”); <http://markets.businessinsider.com/news/stocks/facebook-stock-price-analyst-interview-2017-8-1002276065> (“More and more people are spending more of their daily waking hours on Facebook. We estimate that across Facebook's different

(Continued . . .)

37. On further information and belief, Facebook not only “owns,” but also “operates” both Instagram and WhatsApp, such operation including the cooperative development, improvement, and/or support of their respective services.⁶ For example, on information and belief, Facebook “shares information about” Facebook’s users with Instagram and WhatsApp “to facilitate, support and integrate [Instagram’s and WhatsApp’s] activities and improve our services.”⁷ Likewise, Instagram has been “collaborating with Facebook’s team” to “build a better Instagram for you,” including “shar[ing] insights and information with each other [to] build better experiences for our users.”⁸ Similarly, “[a]s part of the Facebook family of companies, WhatsApp receives information from, and shares information with, this family of companies [including Facebook]. We may use the information we receive from them, and they may use the information we share with them, to help operate, provide, improve, understand, customize, support, and market our Services and their offerings.”⁹ On further information and belief, Facebook,

(. . . continued)

properties - Facebook.com, WhatsApp, Messenger, and Instagram - users spend on average close to an hour every day. That metric was a lot lower two or three years ago. By having people spend more time on the sites or apps, they’re obviously consuming more content, more pages, and giving Facebook the ability to monetize against that content and pages.”); http://corporate1.morningstar.com/Documents/UK/Products/Equity-Research-Services/FB_US_20160728/ (“Now that Facebook has emerged as the clear-cut social media leader, we believe that the company’s offerings, consisting mainly of Facebook, Instagram, Messenger, and WhatsApp, have further strengthened network effects for the firm, where all of these platforms become more valuable to its users as people both join the networks and use these services.”).

⁶ See <https://www.facebook.com/help/111814505650678>.

⁷ See <https://www.facebook.com/help/111814505650678>.

⁸ See <https://help.instagram.com/155833707900388>.

⁹ See <https://www.whatsapp.com/legal/>; <https://blog.whatsapp.com/10000627/Looking-ahead-for-WhatsApp>.

1 WhatsApp, and Instagram have endeavored to integrate their products with each
 2 other from a technical standpoint including, but not limited to: Instagram allowing
 3 users to double-post Instagram stories directly to Facebook from the Instagram
 4 app;¹⁰ Facebook offering a unified messages inbox that lets businesses see and reply
 5 to their Facebook, Messenger, and Instagram interactions in one place;¹¹ Facebook,
 6 Messenger, and Instagram providing cross-application notifications;¹² and Facebook
 7 providing features allowing users to click a button on a business's Facebook page to
 8 open a WhatsApp chat with that business.¹³

9 **FACTS COMMON TO ALL CLAIMS**

10 **BlackBerry's Innovation and Industry Recognition**

11 38. BlackBerry is a global leader in the mobile communications industry.
 12 Through its significant investment in research and development over the past 30
 13 years, BlackBerry has developed innovative, cutting-edge technologies that have
 14 changed the face of telecommunications. In particular, BlackBerry has developed
 15 key innovations in the way mobile devices and communications software interact
 16 with and receive input from users. BlackBerry's innovations in messaging and UI
 17 development improved the speed and accuracy with which users could perform
 18 various tasks on their mobile devices.

19 39. In the late 1990s, BlackBerry began to release a series of game-
 20 changing handheld mobile devices that enabled users to send and receive email and
 21 messages on the go, without needing to be tethered to a modem or a desktop

22 _____
 23 ¹⁰ See <https://techcrunch.com/2017/10/04/instaface/>.

24 ¹¹ See <https://www.engadget.com/2016/11/15/facebook-and-instagram-unified-business-inbox/>.

25 ¹² See <https://www.cnet.com/news/facebook-messenger-instagram-cross-notifications/>; <https://techcrunch.com/2017/05/18/instafacemess/>.

26 ¹³ See <https://techcrunch.com/2017/12/13/click-to-whatsapp-messaging-buttons-are-now-rolling-out-in-facebook-ads/>.
 27
 28

1 computer. The innovative nature of the 1998 RIM 950 Wireless Handheld, for
2 example, was instantly recognized, garnering both an Editor's Choice Award from
3 CNET and Andrew Seybold's Outlook Award. In particular, the press praised the
4 RIM 950's keyboard for its advanced ergonomic features, including an easy-to-type-
5 on keyboard layout despite the device's miniature size.

6 40. In 2002, BlackBerry released the BlackBerry 6710 and 6720 – the first
7 BlackBerry devices capable of both sending emails and making phone calls, and
8 some of the earliest smartphones released in the United States. The next year,
9 BlackBerry introduced smartphone models that added built-in audio hardware and
10 color screens. Since those early smartphones, BlackBerry has continued to offer
11 handheld wireless products incorporating its proprietary technologies in security,
12 communications, mobile device user interfaces, and other areas.

13 41. In 2005, BlackBerry introduced the innovative BlackBerry Messenger
14 (or "BBM") application, which revolutionized the concept of instant messaging.
15 BBM provided the first form of point-to-point communications that was instant,
16 cross-carrier, and mobile. The developers of BBM further incorporated a well-
17 designed graphical user interface and other innovative features not utilized by
18 messaging platforms at that time. For example, BBM has been credited as the first
19 messaging platform to enable status updates showing when messages were
20 Delivered and Read by users, which created a pioneering sense of real-time presence
21 that is now standard in many instant messaging applications. Additionally, BBM's
22 unique platform has allowed users to communicate even when traditional forms of
23 cell communication were incapacitated, such as during the Chilean earthquake in
24 2010.¹⁴

25
26 ¹⁴ See, e.g., [https://www.cio.com/article/2420175/blackberry-phone/blackberry-](https://www.cio.com/article/2420175/blackberry-phone/blackberry-messenger--bbm--keeps-chilean-quake-affected-connected.html)
27 [messenger--bbm--keeps-chilean-quake-affected-connected.html;](http://www.nytimes.com/2001/09/20/technology/the-right-connections-the-simple-blackberry-allowed-contact-when-phones-failed.html)
28 [http://www.nytimes.com/2001/09/20/technology/the-right-connections-the-simple-](http://www.nytimes.com/2001/09/20/technology/the-right-connections-the-simple-blackberry-allowed-contact-when-phones-failed.html)
[blackberry-allowed-contact-when-phones-failed.html](http://www.nytimes.com/2001/09/20/technology/the-right-connections-the-simple-blackberry-allowed-contact-when-phones-failed.html).

1 42. Over the years, BlackBerry continued to develop and improve
2 successive versions of BBM by introducing features such as GPS positioning,
3 connected applications, voice chat, private chat, and many other features. As a
4 result, BBM has been widely downloaded and is popular among users of all
5 platforms, including Android and iOS. Indeed, more than 5 million people
6 downloaded BBM within 8 hours of the release of its Android and iOS versions in
7 October 2013. By March 4, 2015, the Android version of BBM had reached 100
8 million Google Play installs. BBM also enjoys strong user loyalty, with studies
9 finding that 82% of BBM's Android users continue using the application 90 days
10 after installation. Only Facebook and WhatsApp—which unlawfully utilize many
11 of BBM's patented features—have similar user retention figures.

12 43. Each successive iteration of BlackBerry's wireless devices and
13 technologies have received significant unsolicited coverage in the media. For
14 example, GSMA—the largest and most well-known association of mobile
15 operators—recognized BlackBerry and its communication technologies as
16 “chang[ing] the face of corporate communication.” Thomson Reuters named
17 BlackBerry one of the World's Top 100 Most Innovative Organizations, based
18 largely on the number of “important patents” owned by BlackBerry. In 2015,
19 Forrester Research crowned BlackBerry as a “leader in mobile management” based
20 on BlackBerry's focus in security software and mobile solutions.

21 44. BlackBerry's handheld devices and communications technologies have
22 garnered widespread industry acclaim for both their unique design and their
23 performance. For example, BlackBerry mobile devices have garnered dozens of
24 industry awards, including the GSMA Chairman's Award, InfoWorld Magazine's
25 Product of the Year Award, PC World's World Class Award, the Network Industry
26 Award for Best New Mobile Communications Product, the BusinessWeek Best
27 Product of the Year Award, Digit Magazine's “World's Best Mobile OS” Award,
28 Security Products “Govies” Government Security Award, and PC Magazine's Best

1 Products of the Year Award. BBM in particular has been recognized for its
2 innovations in mobile messaging, being awarded “Superstar” distinction from the
3 2014 Mobile Star Awards in the Mobile Messaging or Email category, the Indonesia
4 Golden Ring Award for Best Mobile Social Media, and the ICA 2014 Award for
5 Best Mobile Chat App.

6 45. BlackBerry’s more recent innovations have garnered similar industry
7 acclaim. For example, in 2015 BlackBerry’s Passport was awarded the prestigious
8 Red Dot “Best of the Best” award for innovative product design (from thousands of
9 total entries); BlackBerry and BBM were recognized with the Mobile Marketing
10 Association’s “Smartie” Award for 2015 Publisher/Media Company of the Year in
11 Mobile; and BlackBerry’s PRIV was awarded the Red Dot “Design Award” for best
12 product design in 2016.

13 **BlackBerry’s Patents**

14 46. U.S. Patent No. 7,372,961 (“’961 Patent”) is entitled “Method of public
15 key generation,” and was issued on May 13, 2008. A true and correct copy of the
16 ’961 Patent is attached as Exhibit A.

17 47. The ’961 Patent was filed on Dec. 26, 2001 as U.S. Patent Application
18 No. 10/025,924 and claims priority to Canadian Patent Appl. No. 2,329,590 filed
19 Dec. 27, 2000.

20 48. BlackBerry Limited is the owner of all rights, title, and interest in and
21 to the ’961 Patent, with the full and exclusive right to bring suit to enforce the ’961
22 Patent, including the right to recover for past infringement.

23 49. The ’961 Patent is valid and enforceable under United States Patent
24 Laws.

25 50. U.S. Patent No. 8,209,634 (“’634 Patent”) is entitled “Previewing a
26 new event on a small screen device,” and was issued on Jun. 26, 2012. A true and
27 correct copy of the ’634 Patent is attached as Exhibit B.

28 51. The ’634 Patent was filed on Feb. 24, 2004 as U.S. Patent Application

1 No. 10/784,781 and claims the benefit of U.S. Provisional Patent Application No.
2 60/525,958 filed Dec. 1, 2003.

3 52. BlackBerry Limited is the owner of all rights, title, and interest in and
4 to the '634 Patent, with the full and exclusive right to bring suit to enforce the '634
5 Patent, including the right to recover for past infringement.

6 53. The '634 Patent is valid and enforceable under United States Patent
7 Laws.

8 54. U.S. Patent No. 8,279,173 ("173 Patent") is entitled "User interface for
9 selecting a photo tag," and was issued on Oct. 2, 2012. A true and correct copy of
10 the '173 Patent is attached as Exhibit C.

11 55. The '173 Patent was filed on Oct. 4, 2011 as U.S. Patent Application
12 No. 13/252,807 and is a continuation of U.S. Patent Application No. 11/746,285
13 filed May 9, 2007, which issued as U.S. Patent No. 8,031,170.

14 56. BlackBerry Limited is the owner of all rights, title, and interest in and
15 to the '173 Patent, with the full and exclusive right to bring suit to enforce the '173
16 Patent, including the right to recover for past infringement.

17 57. The '173 Patent is valid and enforceable under United States Patent
18 Laws.

19 58. U.S. Patent No. 8,301,713 ("713 Patent") is entitled "Handheld
20 electronic device and associated method providing time data in a messaging
21 environment," and was issued on Oct. 30, 2012. A true and correct copy of the '713
22 Patent is attached as Exhibit D.

23 59. The '713 Patent was filed on May 19, 2011 as U.S. Patent Application
24 No. 13/111,675 and is a continuation of U.S. Patent Application No. 10/944,925
25 filed Sept. 20, 2004, which issued as U.S. Patent No. 7,970,849, and claims the
26 benefit of U.S. Provisional Patent Application No. 60/504,379 filed Sept. 19, 2003.

27 60. BlackBerry Limited is the owner of all rights, title, and interest in and
28 to the '713 Patent, with the full and exclusive right to bring suit to enforce the '713

1 Patent, including the right to recover for past infringement.

2 61. The '713 Patent is valid and enforceable under United States Patent
3 Laws.

4 62. U.S. Patent No. 8,429,236 ("236 Patent") is entitled "Transmission of
5 status updates responsive to status of recipient application," and was issued on Apr.
6 23, 2013. A true and correct copy of the '236 Patent is attached as Exhibit E.

7 63. The '236 Patent was filed on Dec. 23, 2009 as U.S. Patent Application
8 No. 12/645,873 and claims the benefit of U.S. Provisional Patent Application No.
9 61/167,772 filed Apr. 8, 2009.

10 64. BlackBerry Limited is the owner of all rights, title, and interest in and
11 to the '236 Patent, with the full and exclusive right to bring suit to enforce the '236
12 Patent, including the right to recover for past infringement.

13 65. The '236 Patent is valid and enforceable under United States Patent
14 Laws.

15 66. U.S. Patent No. 8,677,250 ("250 Patent") is entitled "System and
16 method for switching between an instant messaging conversation and a game in
17 progress," and was issued on Mar. 18, 2014. A true and correct copy of the '250
18 Patent is attached as Exhibit F.

19 67. The '250 Patent was filed on Dec. 7, 2010 as U.S. Patent Application
20 No. 12/962,405 and is a continuation of U.S. Patent Application No. 11/537,047
21 filed Sept. 29, 2006, which issued as U.S. Patent No. 7,861,175.

22 68. BlackBerry Limited is the owner of all rights, title, and interest in and
23 to the '250 Patent, with the full and exclusive right to bring suit to enforce the '250
24 Patent, including the right to recover for past infringement.

25 69. The '250 Patent is valid and enforceable under United States Patent
26 Laws.

27 70. U.S. Patent No. 9,349,120 ("120 Patent") is entitled "System and
28 method for silencing notifications for a message thread," and was issued on May 24,

1 2016. A true and correct copy of the '120 Patent is attached as Exhibit G.

2 71. The '120 Patent was filed on Feb. 26, 2010 as U.S. Patent Application
3 No. 12/713,577 and claims priority to U.S. Provisional Appl. No. 61/167,542 filed
4 Apr. 8, 2009.

5 72. BlackBerry Limited is the owner of all rights, title, and interest in and
6 to the '120 Patent, with the full and exclusive right to bring suit to enforce the '120
7 Patent, including the right to recover for past infringement.

8 73. The '120 Patent is valid and enforceable under United States Patent
9 Laws.

10 74. U.S. Patent No. 8,296,351 ("351 Patent") is entitled "System and
11 method for pushing information to a mobile device," and was issued on October 23,
12 2012. A true and correct copy of the '351 Patent is attached as Exhibit K.

13 75. The '351 Patent was filed on March 18, 2010 as U.S. Patent
14 Application No. 12/726,405 and claims priority to, *inter alia*, U.S. Provisional Appl.
15 No. 60/307,265 filed July 23, 2001.

16 76. BlackBerry Limited is the owner of all rights, title, and interest in and
17 to the '351 Patent, with the full and exclusive right to bring suit to enforce the '351
18 Patent, including the right to recover for past infringement.

19 77. The '351 Patent is valid and enforceable under United States Patent
20 Laws.

21 78. U.S. Patent No. 8,676,929 ("929 Patent") is entitled "System and
22 method for pushing information to a mobile device," and was issued on March 18,
23 2014. A true and correct copy of the '929 Patent is attached as Exhibit L.

24 79. The '929 Patent was filed on September 13, 2012 as U.S. Patent
25 Application No. 13/614,884 and claims priority to, *inter alia*, U.S. Provisional Appl.
26 No. 60/307,265 filed July 23, 2001.

27
28

80. BlackBerry Limited is the owner of all rights, title, and interest in and to the '929 Patent, with the full and exclusive right to bring suit to enforce the '929 Patent, including the right to recover for past infringement.

81. The '929 Patent is valid and enforceable under United States Patent Laws.

Defendants' Use of BlackBerry's Patented Technologies

82. On information and belief, Facebook released the Facebook Messenger application on August 9, 2011, more than six years after BlackBerry's release of BlackBerry Messenger ("BBM").¹⁵ On information and belief, Facebook subsequently released the Pages Manager application in 2012, and the Messenger Lite and Workplace Chat applications in 2017.¹⁶ Additionally, WhatsApp and Instagram released the first versions of their applications in 2009 and 2010, respectively—nearly four and five years after BBM was released, respectively.¹⁷

83. By the time Defendants had released even the first (and simplest) versions of their respective messaging applications, BlackBerry had already invented most of the technologically innovative messaging application functionalities at issue in this action. Indeed, most of these innovations were already being utilized by users of BlackBerry's smartphones, which represented

¹⁵ See, e.g., <https://www.cnet.com/news/facebook-chat-begins-to-roll-out/>; <https://techcrunch.com/2011/08/09/facebook-launches-standalone-mobile-messenger-app-and-it%E2%80%99s-beluga/>.

¹⁶ See, e.g., <https://techcrunch.com/2017/10/02/facebook-lite-us-uk-canada-ireland/> (Facebook Messenger Lite released on or around October 2017); <https://www.engadget.com/2017/10/26/facebook-opens-its-workplace-chat-desktop-app-to-everyone/> (same for Facebook Workplace Chat); <https://www.cnet.com/how-to/getting-started-with-facebook-pages-manager-for-ios/> (Facebook Pages Manager released on or around May 2012);

¹⁷ See, e.g., <http://www.wired.co.uk/article/whatsapp-exclusive>; <https://techcrunch.com/2010/10/06/instagram-launch/>.

1 more than half of the U.S. market in 2009 and came with BBM installed.¹⁸ Industry
 2 commentators at the time noted the success of BBM, including with consumer
 3 audiences such as “[t]eens, for instance, [who] love BlackBerry Messenger, RIM’s
 4 proprietary instant messaging feature.” See
 5 [http://archive.fortune.com/2009/08/12/technology/blackberry_research_in_motion.f](http://archive.fortune.com/2009/08/12/technology/blackberry_research_in_motion.fortune/index.htm)
 6 [ortune/index.htm](http://archive.fortune.com/2009/08/12/technology/blackberry_research_in_motion.fortune/index.htm). The consumer demand and appreciation for BlackBerry’s
 7 innovative messaging application functionalities was further evidenced in 2013,
 8 when BlackBerry released the first versions of BBM for Apple’s iOS and Google’s
 9 Android mobile device platforms and recorded over 5 million downloads of BBM
 10 within the first 8 hours of being made available. See
 11 [https://9to5mac.com/2013/10/21/blackberry-announces-5-million-downloads-of-](https://9to5mac.com/2013/10/21/blackberry-announces-5-million-downloads-of-bbm-for-ios-and-android-only-8-hours-after-release/)
 12 [bbm-for-ios-and-android-only-8-hours-after-release/](https://9to5mac.com/2013/10/21/blackberry-announces-5-million-downloads-of-bbm-for-ios-and-android-only-8-hours-after-release/). In just two years, BBM had
 13 been installed in over 100 million Android devices alone. See
 14 <http://blogs.blackberry.com/2015/03/bbm-hits-100m-google-play-installs/>.

15 84. Seizing on the success of BBM and demand for consumer messaging
 16 platforms featuring BlackBerry’s innovative features and functionalities, Defendants
 17 have developed and released their respective infringing messaging applications that
 18 incorporate and unlawfully utilize BlackBerry’s patented technologies, including,
 19 without limitation, Facebook and Facebook Messenger for Android and iOS
 20 devices, WhatsApp Messenger for Android and iOS devices, and Instagram for
 21 Android and iOS devices, as well as the Facebook website (www.facebook.com).

22 85. On information and belief, Defendants market, offer, and distribute the
 23 infringing Facebook, Facebook Messenger, Facebook Messenger Lite, Facebook
 24 Workplace Chat, and Facebook Pages Manager, WhatsApp Messenger, and
 25 Instagram applications in and within the United States, including through
 26 distribution platforms such as the Apple iTunes App Store and the Google Android

27 ¹⁸ See http://money.cnn.com/2009/06/17/technology/rim_blackberry_preview/.
 28

1 Play Store, as well as their own websites, www.facebook.com,
 2 www.messenger.com, www.whatsapp.com, and www.instagram.com.

3 86. On information and belief, the accused applications and websites are an
 4 important part of Facebook's offerings in the United States and are the primary or
 5 only product or service offered by WhatsApp and Instagram, which were acquired
 6 by Facebook for approximately \$19 billion and \$1 billion, respectively.¹⁹

7 87. On information and belief, Defendants encourage users of mobile and
 8 computing devices such as mobile phones and desktop and laptop computers in the
 9 United States to download and use the infringing applications and websites, and
 10 such users do so download and use the infringing applications and websites in the
 11 manner Defendants intend such applications and websites to be used.

12 88. On information and belief, Defendants have also designed, developed,
 13 tested, and used the infringing applications in and within the United States.

14 **COUNT I: INFRINGEMENT OF U.S. PATENT NO. 7,372,961**

15 89. BlackBerry incorporates by reference and re-alleges all of the foregoing
 16 paragraphs of this Complaint as if fully set forth herein.

17 **The '961 Patent**

18 90. The '961 Patent discloses, among other things, "key generation
 19 technique[s for public key cryptosystems] in which any bias is eliminated during the
 20 selection of the key." '961 Patent at 3:1-3.

21 91. As the '961 Patent explains, public key cryptosystems are used to
 22 protect and provide security for data communication systems. Specifically, "[s]uch
 23 systems use a private key k and a corresponding public key α^k where α is a generator
 24 of the group. Thus one party may encrypt a message m with the intended recipients
 25 public key and the recipient may apply his private key to decrypt it." *Id.* at 1:12-16.

26
 27 ¹⁹ See, e.g., <https://newsroom.fb.com/news/2014/02/facebook-to-acquire-whatsapp/>;
 28 <https://newsroom.fb.com/news/2012/04/facebook-to-acquire-instagram/>.

1 92. More particularly, such public key cryptosystems can “be used to sign
2 messages to authenticate the author and/or the contents. In this case the sender will
3 sign a message using his private key and a recipient can verify the message by
4 applying the public key of the sender. If the received message and the recovered
5 message correspond then the authenticity is verified.” *Id.* at 1:26-32.

6 93. As the ’961 Patent notes, “the security of such systems ... depend[s] on
7 the private key remaining secret.” *Id.* at 1:37-38. Thus, one prevalent set of
8 protocols to provide for the secrecy of the private key “use[s] a pair of private keys
9 and corresponding public keys, referred to as long term and short term or ephemeral
10 key pairs respectively. The ephemeral private key is generated at the start of each
11 session between a pair of correspondents, usually by a random number generator.
12 The corresponding, ephemeral public key is generated and the resultant key pair
13 used in one of the possible operations described above. The long-term public key is
14 utilized to authenticate the correspondent through an appropriate protocol. Once the
15 session is terminated, the ephemeral key is securely discarded and a new ephemeral
16 key generated for a new session.” *Id.* at 1:37-50.

17 94. However, the ’961 Patent also explains the potential weakness in such
18 public key based cryptosystems, even those which use both ephemeral keys to help
19 maintain the secrecy of the long term private key: “if an ephemeral key *k* and the
20 associated message *m* and signature (*r,s*) is obtained it may be used to yield the long
21 term private key *d* and thereafter each of the ephemeral keys *k* can be obtained.” *Id.*
22 at 2:24-27.

23 95. While the commonly used methods for generating and verifying digital
24 signatures (Digital Signature Algorithm, or “DSA” and Elliptic Curve DSA, or
25 “ECDSA”), did not “inherently disclose any information about the public key *k*,”
26 the ’961 Patent noted that the implementation “may be done in such a way as to
27 inadvertently introduce a bias in to the selection of *k*. This small bias may be
28 exploited to extract a value of the private key *d* and thereafter render the security of

1 the system vulnerable” and potentially insecure. *Id.* at 2:27-29, 33-37.

2 96. In particular, as the '961 Patent notes, the prevailing government
3 standard at the time governing the generation and verification of digital signatures,
4 the FIPS 186-2 Standard (promulgated by the National Institute of Standards and
5 Technology (“NIST”)), suffered from this very problem, *i.e.*, using the algorithm
6 specified in the FIPS 186-2 standard resulted in “more values [lying in the] first
7 interval than the second and therefore there is a potential bias in the selection of k.”
8 *Id.* at 2:36-55. This bias could be used by hackers to obtain the private key and
9 therefore render the cryptographic system ineffective. Thus, the inventors of the
10 '961 Patent developed “a key generation technique in which any bias is eliminated
11 during the selection of the key,” resulting in a more secure key generation
12 technique. *Id.* at 3:1-3.

13 97. The '961 Patent further describes the type of cryptographic systems
14 that are used to generate such keys in a manner which eliminates bias during the
15 selection of the key. As explained therein, a pair of correspondents are exchanging
16 messages for which the parties wish to maintain security. The correspondents “may
17 be computer terminals, point-of-sale devices, automated teller machines, constrained
18 devices such as PDA’s, cellphones, pagers or any other device enabled [f]or
19 communication over a link 16.” *Id.* at 3:28-32. The correspondents are “connected
20 by a communication link 16,” which “may be a dedicated link, a multipurpose link
21 such as a telephone connection or a wireless link depending on the particular
22 applications.” *Id.* at 3:24-28.

23 98. In some embodiments, to perform the key generation techniques
24 disclosed in the '961 Patent, “[e]ach of the correspondents 12, 14 includes a secure
25 cryptographic function 20 including a secure memory 22, an arithmetic processor 24
26 for performing finite field operations, a random number generator 26 and a
27 cryptographic hash function 28 for performing a secure cryptographic hash....
28 [E]ach of these functions is controlled by a processor executing instructions to

1 provide functionality and inter-operability as is well known in the art.” *Id.* at 3:33-
2 44. Further, the “secure memory 22 includes a register 30 for storing a long-term
3 private key, *d*, and a register 32 for storing an ephemeral private key *k*.” *Id.* at 3:45-
4 47.

5 99. The ’961 Patent discloses several variations of the anti-bias key
6 generation methods claimed therein. In a first such method, the “cryptographic
7 function is performed over a group of order *q*, where *q* is a prime represented as a
8 bit string of predetermined length *L*.” *Id.* at 3:67 - 4:2. In order to generate the
9 ephemeral key, *k*, the system first “obtain[s] a seed value (*SV*) from the random
10 number generator 26.” *Id.* at 3:64-66. Next the system applies a hash function 28 to
11 the seed value to generate an output of *L* bits. *See id.* at 4:6-10.

12 100. To confirm that the hashed seed value is acceptable to use in generating
13 the ephemeral key (*e.g.*, will not result in a potential bias), the hashed seed value “is
14 tested against the value of *q* and a decision made based on the relative values. If
15 $H(\text{seed}) < q$ then it is accepted for use as *k*. If not, the value is rejected and a new
16 value is generated, which is again hashed by the function 28 and tested. This loop
17 continues until a satisfactory value is obtained.” *Id.* at 4:11-17.

18 101. The ’961 Patent further discloses alternative embodiments which use
19 different mechanisms for generating the seed value, which (i) also compare the seed
20 value to the order *q* to determine if the seed value is satisfactory, or (ii) “use a low
21 Hamming weight integer obtained by combining the output of the random number
22 generator 26” (as disclosed in Canadian Patent No. 2,217,925). *See id.* at 4:18-5:25.

23 102. In view of the historical context and development of key generation
24 methodologies for long term and ephemeral keys in the context of cryptographic
25 systems, discussed below, a person of ordinary skill in the art would have
26 understood that the inventions of the ’961 Patent provide unconventional solutions
27 to solve the problems they address.

28 **The Inventions Claimed in the ’961 Patent Were Not**

Well-Understood, Routine, or Conventional

103. Using a comparison of a seed value generated using a random number generator whose output has been subject to a hashing function, or a low weight hamming function, to determine if a seed value would not result in a bias in connection with the selection of an ephemeral key was not common or conventional at the time of invention of the '961 Patent.

104. As explained in the '961 Patent, public key cryptosystems were used to protect and maintain as secret data that parties wanted to share over electronic communication systems. Indeed, the importance of developing and standardizing the use of "advanced, dynamic, robust, and effective information security solutions ... for the protection of critical information infrastructures" was recognized by the federal government through the Federal Information Security Management Act of 2002 (44 U.S.C. § 3541 et seq., "FISMA").

105. In seeking to promote the protection of such, FISMA provided for "a comprehensive framework for ensuring the effectiveness of information security controls over information resources that support Federal operations and assets, ... development and maintenance of minimum controls required to protect Federal information and information systems; [and] a mechanism for improved oversight of Federal agency information security programs." 44 U.S.C. § 3541.

106. Pursuant to FISMA, the federal government, in conjunction with the National Institute of Standards and Technology (NIST), the NSA, and leading cryptographic experts, developed a number of standards, referred to as Federal Information Processing Standards (FIPS) standards, in order to establish requirements for various purposes such as ensuring computer security and interoperability. Specifically, "NIST develops FIPS when there are compelling federal government requirements such as for security and interoperability and there

1 are no acceptable industry standards or solutions.”²⁰

2 107. In particular, the FIPS 186-2 standard was directed to digital signature
3 generation and verification:

4 the Digital Signature Algorithm (DSA) is a Federal Information
5 Processing Standard for digital signatures. It was proposed by the
6 National Institute of Standards and Technology (NIST) in August
7 1991 for use in their Digital Signature Standard (DSS) and adopted as
8 FIPS 186 in 1993. ... This standard specifies a suite of algorithms
9 which can be used to generate a digital signature. Digital signatures
10 are used to detect unauthorized modifications to data and to
11 authenticate the identity of the signatory. In addition, the recipient of
12 signed data can use a digital signature in proving to a third party that
13 the signature was in fact generated by the signatory. This is known as
14 nonrepudiation since the signatory cannot, at a later time, repudiate
15 the signature.²¹

16 108. Thus the FIPS 186-2 standard was the *de facto* method of
17 implementing DSA in cryptographic systems used to communicate with the federal
18 government, and was intended to provide sufficient security for confidential
19 information exchanged with the government.

20 109. However, at the time of the '961 Patent inventions, cryptographer
21 Daniel Bleichenbacher discovered a problem with this standard: the mechanisms
22 specified in FIPS 186-2 to generate keys “introduce[d] sufficient bias in to the
23 selection of k that an examination of 2²² signatures could yield the private key d in
24 264 steps using 2⁴⁰ memory units,” i.e., such that third parties could potentially
25 discover the public key. '961 Patent at 2:56-59.

26 110. This issue was further brought to the attention of the IEEE P1363
27 Working Group, which was the key industry standard group for promulgating
28

25 ²⁰ NIST FIPS General Information, available at [https://www.nist.gov/information-](https://www.nist.gov/information-technology-laboratory/fips-general-information)
26 [technology-laboratory/fips-general-information](https://www.nist.gov/information-technology-laboratory/fips-general-information) (last visited January 17, 2018).

27 ²¹ FIPS PUB 186-2, Digital Signature Standard (DSS) (Jan. 27, 2000) at Foreword,
28 Abstract.

1 standard specifications for public-key cryptography. The Working Group
2 “considered the attack to be significant enough to warrant including a security note
3 on DL signatures indicating that it is desirable to eliminate any bias in the key
4 generation method for one-time keys in order to prevent attacks such as the one
5 proposed by Bleichenbacher.”²²

6 111. Thus, as of the time of the ’961 Patent inventions, the prevailing
7 government standard for DSA suffered from a noted security risk. The inventors of
8 the ’961 Patent provided innovative solutions to this problem by eliminating bias in
9 the selection of the ephemeral key through the various methods described above.

10 112. As noted above, the ’961 Patent is drawn to solving a specific,
11 technical problem arising in the context of key generation in cryptographic
12 communication between data communication systems. Consistent with the problem
13 addressed being rooted in such computer-based data communication systems, the
14 ’961 Patent’s solutions naturally are also rooted in that same technology that cannot
15 be performed with pen and paper or in the human mind.

16 113. Given the state of the art at the time of the invention of the ’961 Patent,
17 including the deficiencies in prevailing cryptography standards of the time, the
18 inventive concepts of the ’961 Patent cannot be considered to be conventional, well-
19 understood, or routine. The ’961 Patent discloses, among other things, an
20 unconventional solution to an issue arising in the context of cryptographic
21 communication between data communication systems (such as computer terminals,
22 point of sale devices, automated teller machines, PDAs, cellphones, and pagers), and
23 offered a technological solution to that issue resulting in computing devices with
24 improved security, including by introducing novel elements directed to improving
25

26 ²² November 2000 Meeting Minutes, IEEE 1363 Working Group, *available at*
27 <http://grouper.ieee.org/groups/1363/WorkingGroup/minutes/Nov00.txt> (last visited
28 January 17, 2018).

1 the function and working of computing devices such as, *inter alia*, the claimed “if
2 said output H(SV) is rejected, repeating said method [of generating a seed value SV
3 from a random number generator; performing a hash function H() on said seed
4 value SV to provide an output H(SV); determining whether said output H(SV) is
5 less than said order q prior to reducing mod q; accepting said output H(SV) for use
6 as said key k if the value of said output H(SV) is less than said order q; rejecting
7 said output H(SV) as said key if said value is not less than said order q]” (claims 15
8 and 23).

9 114. The '961 Patent claims cannot be performed in the human mind or by
10 using pen and paper. As noted above, the '961 Patent expressly states that it is
11 drawn to address a specific, technical problem arising in the context of
12 cryptographic communication between data communication systems. *See id.* at
13 2:56-3:3.

14 115. Consistent with the problem addressed being rooted in cryptographic
15 communication between data communication systems, the '961 Patent's solutions
16 naturally are also rooted in that same technology that cannot be performed with pen
17 and paper or in the human mind.

18 116. This technical context is reflected in the '961 Patent's claims. For
19 example, various claims of the '961 Patent require a random number generator to
20 generate a seed value, as well as a cryptographic unit and an arithmetic processor.

21 117. A person having ordinary skill in the art at the time of the inventions of
22 the '961 Patent would not have understood that the inventions could or would be
23 performed solely in the human mind or using pen and paper. Using pen and paper
24 would ignore the stated purpose of the '961 Patent and the problem it was
25 specifically designed to address. Doing so would also run counter to the inventors'
26 detailed description of the inventions and the language of the claims and be a
27 practical impossibility.

28 **'961 Patent Allegations**

118. Defendant Facebook has infringed and is infringing, either literally or under the doctrine of equivalents, the '961 Patent in violation of 35 U.S.C. § 271 et seq., directly and/or indirectly, by making, using, offering for sale/lease, selling or leasing in the United States, and/or importing into the United States without authority or license, products that support (i) "private key generation" for generating and sharing a public key (and including, but not limited to, encrypting messages sent to Facebook servers using Transport Layer Security) that includes or supports OpenSSL and the OpenSSL elliptic curve cryptography ("EC") library, including the Facebook Messenger application, and related Facebook backend servers and systems (hereinafter "the '961 Accused Products") that infringe at least claims 15 and 23 of the '961 Patent.

119. As shown below, the Facebook Messenger application uses a public key derived from the private key when ECDHE key agreement is performed as part of initiating a secure connection with a Facebook server.

120. As just one non-limiting example, set forth below (with claim language in italics) is a description of infringement of exemplary claim 15 of the '961 Patent in connection with the '961 Accused Products. This description is based on publicly available information. BlackBerry reserves the right to modify this description, including, for example, on the basis of information about the '961 Accused Products that it obtains during discovery.

1(a) A computer readable medium comprising computer executable instructions for generating a key k for use in a cryptographic function performed over a group of order q , said instructions including instructions for: - Facebook makes and uses the '961 Accused Products. Regardless of whether the preamble of claim 15 adds any substantive limitation to the claim, the claim language is met by the '961 Accused Products, which, on information and belief after reasonable investigation, comprise a computer readable medium comprising computer executable instructions for generating a key k for use in a cryptographic function

performed over a group of order q , as further described below for the remaining claim limitations.

1(b) generating a seed value SV from a random number generator:

OpenSSL: crypto/rand/md_rand.c

```

/* random number r: 0 <= r < range */
static int bn_rand_range(int pseudo, BIGNUM *r, const BIGNUM *range)
{
    int (*bn_rand) (BIGNUM *, int, int, int) =
        pseudo ? BN_pseudo_rand : BN_rand;
    int n;
    int count = 100;

    if (range->neg || BN_is_zero(range)) {
        BNerr(BN_F_BN_RAND_RANGE, BN_R_INVALID_RANGE);
        return 0;
    }

    n = BN_num_bits(range);    /* n > 0 */

    /* BN_is_bit_set(range, n - 1) always holds */

    if (n == 1)
        BN_zero(r);
    else if (!BN_is_bit_set(range, n - 2) && !BN_is_bit_set(range, n - 3)) {
        /*
         * range = 100..._2, so 3*range (= 11..._2) is exactly one bit longer
         * than range
         */
        do {
            if (!bn_rand(r, n + 1, -1, 0))
                return 0;
            /*
             * If r < 3*range, use r := r MOD range (which is either r, r -
             * range, or r - 2*range). Otherwise, iterate once more. Since
             * 3*range = 11..._2, each iteration succeeds with probability >=
             * .75.
             */
            if (BN_cmp(r, range) >= 0) {
                if (!BN_sub(r, r, range))
                    return 0;
                if (BN_cmp(r, range) >= 0)
                    if (!BN_sub(r, r, range))
                        return 0;
            }

            if (--count) {
                BNerr(BN_F_BN_RAND_RANGE, BN_R_TOO_MANY_ITERATIONS);
                return 0;
            }
        } while (BN_cmp(r, range) >= 0);
    }
}

```

1(c) performing a hash function $H(\)$ on said seed value SV to provide an output $H(SV)$;

OpenSSL: crypto/rand/md_rand.c

```

int ssleay_rand_bytes(unsigned char *buf, int num, int pseudo, int lock)
{

```

```

1      /*
2      * (Based on the rand(3) manpage:)
3      *
4      * For each group of 10 bytes (or less), we do the following:
5      *
6      * Input into the hash function the local 'md' (which is initialized from
7      * the global 'md' before any bytes are generated), the bytes that are to
8      * be overwritten by the random bytes, and bytes from the 'state'
9      * (incrementing looping index). From this digest output (which is kept
10     * in 'md'), the top (up to) 10 bytes are returned to the caller and the
11     * bottom 10 bytes are xored into the 'state'.
12     *
13     * Finally, after we have finished 'num' random bytes for the
14     * caller, 'count' (which is incremented) and the local and global 'md'
15     * are fed into the hash function and the results are kept in the
16     * global 'md'.
17     */
18
19     while (num > 0) {
20         /* num_ceil -= MD_DIGEST_LENGTH/2 */
21         j = (num >= MD_DIGEST_LENGTH / 2) ? MD_DIGEST_LENGTH / 2 : num;
22         num -= j;
23         if (!MD_Init(&m))
24             goto err;
25 #ifndef GETPID_IS_MEANINGLESS
26         if (curr_pid) { /* just in the first iteration to save time */
27             if (!MD_Update(&m, (unsigned char *)&curr_pid, sizeof curr_pid))
28                 goto err;
29             curr_pid = 0;
30         }
31 #endif
32         if (!MD_Update(&m, local_md, MD_DIGEST_LENGTH) ||
33             !MD_Update(&m, (unsigned char *)&(md_c[0]), sizeof(md_c)))
34             goto err;
35
36 #ifndef PURIFY /* purify complains */
37     /*
38      * The following line uses the supplied buffer as a small source of
39      * entropy: since this buffer is often uninitialised it may cause
40      * programs such as purify or valgrind to complain. So for those
41      * builds it is not used: the removal of such a small source of
42      * entropy has negligible impact on security.
43      */
44     if (!MD_Update(&m, buf, j))
45         goto err;
46 #endif

```

```

1      k = (st_idx + MD_DIGEST_LENGTH / 2) - st_num;
2      if (k > 0) {
3          if (!MD_Update(&m, &(state[st_idx]), MD_DIGEST_LENGTH / 2 - k) ||
4              !MD_Update(&m, &(state[0]), k))
5              goto err;
6      } else {
7          if (!MD_Update(&m, &(state[st_idx]), MD_DIGEST_LENGTH / 2))
8              goto err;
9      }
10     if (!MD_Final(&m, local_md))
11         goto err;
12
13     for (i = 0; i < MD_DIGEST_LENGTH / 2; i++) {
14         /* may compete with other threads */
15         state[st_idx++] ^= local_md[i];
16         if (st_idx >= st_num)
17             st_idx = 0;
18         if (i < j)
19             *(buf++) = local_md[i + MD_DIGEST_LENGTH / 2];
20     }
21 }

```

12 1(d) determining whether said output $H(SV)$ is less than said order q prior to
13 reducing mod q ; accepting said output $H(SV)$ for use as said key k if the value of
14 said output $H(SV)$ is less than said order q ; rejecting said output $H(SV)$ as said key
15 if said value is not less than said order q ; if said output $H(SV)$ is rejected, repeating
16 said method;

17 OpenSSL: crypto/bn/bn_rand.c

```

1  /* random number r: 0 <= r < range */
2  static int bn_rand_range(int pseudo, BIGNUM *r, const BIGNUM *range)
3  {
4      int (*bn_rand) (BIGNUM *, int, int, int) =
5          pseudo ? BN_pseudo_rand : BN_rand;
6      int n;
7      int count = 100;
8
9      if (range->neg || BN_is_zero(range)) {
10         BNerr(BN_F_BN_RAND_RANGE, BN_R_INVALID_RANGE);
11         return 0;
12     }
13
14     n = BN_num_bits(range); /* n > 0 */
15
16     /* BN_is_bit_set(range, n - 1) always holds */
17
18     if (n == 1)
19         BN_zero(r);
20     else if (!BN_is_bit_set(range, n - 2) && !BN_is_bit_set(range, n - 3)) {
21         /*
22          * range = 100..._2, so 3*range (= 11..._2) is exactly one bit longer
23          * than range
24          */
25         do {
26             if (!bn_rand(r, n + 1, -1, 0))
27                 return 0;
28
29             /*
30              * If r < 3*range, use r := r MOD range (which is either r, r -
31              * range, or r - 2*range). Otherwise, iterate once more. Since
32              * 3*range = 11..._2, each iteration succeeds with probability >=
33              * .75.
34              */
35             if (BN_cmp(r, range) >= 0) {
36                 if (!BN_sub(r, r, range))
37                     return 0;
38                 if (BN_cmp(r, range) >= 0)
39                     if (!BN_sub(r, r, range))
40                         return 0;
41             }
42
43             if (--count) {
44                 BNerr(BN_F_BN_RAND_RANGE, BN_R_TOO_MANY_ITERATIONS);
45                 return 0;
46             }
47         }
48         while (BN_cmp(r, range) >= 0);
49     }
50 }

```

21 1(e) and if said output $H(SV)$ is accepted, providing said key k for use in
22 performing said cryptographic function, wherein said key k is equal to said output
23 $H(SV)$.

24 OpenSSL: crypto/ec/ec_key.c
25 `int EC_KEY_generate_key(EC_KEY *eckey)`
26 `{`
27
28

```

1      do
2          if (!BN_rand_range(priv_key, order))
3              goto err;
4          while (BN_is_zero(priv_key)) ;
5
6          if (eckey->pub_key == NULL) {
7              pub_key = EC_POINT_new(eckey->group);
8              if (pub_key == NULL)
9                  goto err;
10         } else
11             pub_key = eckey->pub_key;
12
13         if (!EC_POINT_mul(eckey->group, pub_key, priv_key, NULL, NULL, ctx))
14             goto err;
15
16         eckey->priv_key = priv_key;
17         eckey->pub_key = pub_key;
18
19         ok = 1;

```

121. Additionally, Defendant Facebook has been, and currently is, an active inducer of infringement of the '961 Patent under 35 U.S.C. § 271(b) and contributory infringer of the '961 Patent under 35 U.S.C. § 271(c).

122. Facebook knew of the '961 Patent, or should have known of the '961 Patent but was willfully blind to its existence. Upon information and belief, Facebook has had actual knowledge of the '961 Patent since at least as early as the filing and/or service of this Complaint. Additionally, Facebook was made aware of the '961 Patent through a notice letter sent from BlackBerry to WhatsApp on April 15, 2016, on which Facebook's General Counsel, Colin Stretch, Esq., was cc'ed. Ex. H. On June 21, WhatsApp's General Counsel sent a response email noting that BlackBerry's assertions had been considered, and further identifying a number of Facebook patents purportedly of interest to BlackBerry. Ex. I. On information and belief, in making these responses, which included specific reference to patents purportedly owned by Facebook, WhatsApp had communicated BlackBerry's assertions to Facebook for Facebook's consideration and analysis. WhatsApp's General Counsel further provided a draft NDA for BlackBerry's review, noting a willingness to meet with BlackBerry's representatives "in-person to discuss after entering into an appropriate NDA." *Id.* On July 27, 2016, counsel for WhatsApp

1 provided further revisions to the proposed NDA; the draft NDA included both
2 Facebook and WhatsApp as parties thereto, evidencing Facebook's involvement in
3 and intent to participate in discussions pertaining to the patents identified by
4 BlackBerry. Facebook was thus provided abundant and actual notice of the '961
5 Patent (and other patents identified in BlackBerry's letter), prior to the filing of this
6 Complaint.

7 123. Facebook has provided the '961 Accused Products to its customers and,
8 on information and belief, instructions to use the '961 Accused Products in an
9 infringing manner while being on notice of or willfully blind to the '961 Patent and
10 Facebook's infringement. Therefore, on information and belief, Facebook knew or
11 should have known of the '961 Patent and of its own infringing acts, or deliberately
12 took steps to avoid learning of those facts.

13 124. Facebook knowingly and intentionally encourages and aids at least its
14 end-user customers to directly infringe the '961 Patent.

15 125. Upon information and belief, Facebook provides the '961 Accused
16 Products to customers through various third-party application stores (*e.g.*, the Apple
17 iTunes App Store) and instructions to end-user customers so that such customers
18 will use the '961 Accused Products in an infringing manner.

19 126. Facebook's end-user customers directly infringe at least claims 15 and
20 23 of the '961 Patent by using the '961 Accused Products in their intended manner
21 to infringe. Facebook induces such infringement by providing the '961 Accused
22 Products and instructions to enable and facilitate infringement, knowing of, or being
23 willfully blind to the existence of, the '961 Patent. Upon information and belief,
24 Facebook specifically intends that its actions will result in infringement of at least
25 claims 15 and 23 of the '961 Patent, or subjectively believe that their actions will
26 result in infringement of the '961 Patent but took deliberate actions to avoid learning
27 of those facts, as set forth above.

28 127. Additionally, Facebook contributorily infringes at least claims 15 and

23 of the '961 Patent by providing the '961 Accused Products and/or software components thereof, that embody a material part of the claimed inventions of the '961 Patent, that are known by Facebook to be specially made or adapted for use in an infringing manner, and are not staple articles with substantial non-infringing uses. The '961 Accused Products are specially designed to infringe at least claims 15 and 23 of the '961 Patent, and their accused components have no substantial non-infringing uses. In particular, on information and belief, the software modules and code that implement and perform the infringing functionalities identified above are specially made and adapted to carry out said functionality and do not have any substantial non-infringing uses.

128. Facebook's infringement of the '961 Patent was and continues to be willful and deliberate, entitling BlackBerry to enhanced damages and attorneys' fees.

129. Additional allegations regarding Facebook's knowledge of the '961 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

130. Facebook's infringement of the '961 Patent is exceptional and entitles BlackBerry to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

131. BlackBerry has been damaged by Facebook's infringement of the '961 Patent and will continue to be damaged unless Facebook is enjoined by this Court. BlackBerry has suffered and continues to suffer irreparable injury for which there is no adequate remedy at law. The balance of hardships favors BlackBerry, and public interest is not disserved by an injunction.

132. BlackBerry is entitled to recover from Facebook all damages that BlackBerry has sustained as a result of Facebook's infringement of the '961 Patent, including without limitation lost profits and not less than a reasonable royalty.

///

1 **COUNT II: INFRINGEMENT OF U.S. PATENT NO. 8,209,634**

2 133. BlackBerry incorporates by reference and re-alleges all of the foregoing
3 paragraphs of this Complaint as if fully set forth herein.

4 **The '634 Patent**

5 134. The '634 Patent discloses, among other things, a “[m]ethod and
6 apparatus for previewing new events in a computing device having a plurality of
7 applications for managing respective events” whereby “[i]n response to a new event
8 of a one of the applications, the application’s icon is visually modified to notify of
9 the new event.” ’634 Patent, Abstract.

10 135. The '634 Patent explains that “[r]epresenting multiple services and
11 functions to a user on a single wireless mobile device presents a number of
12 challenges to the designer of a user interface, particularly a graphical user interface
13 (GUI), for controlling the device. Wireless devices are usually small relative to less
14 portable computing devices such as laptops and desktop computers. Inherently then,
15 a visual display such as an LCD or other screen component of the wireless mobile
16 device has a small display area.” *Id.* at 1:32-40. The patent further explains a
17 drawback created by the small display area of mobile devices in combination with a
18 user’s desire to operate multiple simultaneous applications on a mobile device:
19 “When a user is notified of a new event such as a new IM message, the user is
20 required to check each of their IM service applications separately, via their
21 respective activation icons, to determine which IM service is responsible for the new
22 event. Checking each service is inconvenient. Moreover, there is a demand to have
23 information made available to a user quicker than previously available in order to
24 optimize the control of the wireless device.” *Id.* at 1:60-67. Similarly, a user of a
25 mobile device would face the same limitations in attempting to access multiple
26 simultaneous conversations on the mobile device in order to determine whether
27 there is one or many conversations responsible for the new event.

28 136. Fig. 7 of the '634 Patent shows an exemplary mobile device user

1 interface according to the patent including “a dialog box 602 for an IM application
 2 306 having two unread messages indicated at visual modification 400.” *Id.* at 8:56-
 3 58. The patent discloses that a count may represent the number of correspondents
 4 from which one or more messages have been received but remain unread. *Id.* at 8:8-
 5 13.

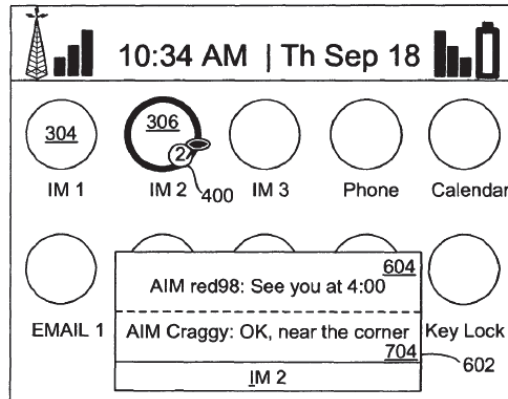


FIG. 7

15 137. The '634 Patent thus describes, *inter alia*, “[a] method of providing
 16 notifications of unread messages on a wireless communication device, comprising:
 17 displaying at least one icon relating to electronic messaging on a graphical user
 18 interface of the wireless communication device; receiving a plurality of electronic
 19 messages on the wireless communication device, the plurality of electronic
 20 messages including messages from a plurality of different messaging
 21 correspondents; and in response to receiving at least one of the plurality of
 22 electronic messages, visually modifying at least one displayed icon relating to
 23 electronic messaging to include a numeric character representing a count of the
 24 plurality of different messaging correspondents for which one or more of the
 25 electronic messages have been received and remain unread.” *Id.* at claim 1.

26 **The Inventions Claimed in the '634 Patent Were Not**
 27 **Well-Understood, Routine, or Conventional**

28 138. A wireless communication device displaying at least one icon relating

1 to electronic messaging on a graphical user interface, receiving a plurality of
2 electronic messages from a plurality of different messaging correspondents, and
3 visually modifying at least one icon to include a numeric character representing the
4 count of the plurality of correspondents for which one or more messages remain
5 unread was not common or conventional at the time of the '634 Patent.

6 139. The inventors of the '634 Patent recognized the need in wireless mobile
7 devices "to have information made available to a user quicker than previously
8 available in order to optimize the control of the wireless device," particularly with
9 respect to notifications on mobile devices of new events such as new IM messages.
10 '634 Patent at 1:60-67. The inventors further identified the benefit of solving this
11 described problem by providing a wireless communication device with a graphical
12 user interface wherein an icon is visually modified in response to a new event and
13 the visual modification may comprise maintaining a count of new events. *Id.* at 2:9-
14 28. Moreover, the '634 Patent displays a count of the number of conversations in
15 which a new message has been received, so that the user is able to quickly determine
16 whether the level of new messaging activity is coming from multiple conversations
17 or a single, busy conversation.

18 140. Given the state of the art at the time of the invention of the '634 Patent,
19 the inventive concepts of the '634 Patent were not conventional, well-understood, or
20 routine. The '634 Patent discloses, among other things, an unconventional and
21 technological solution to an issue arising specifically in the context of wireless
22 communication devices and electronic messaging received within those devices.
23 The solution implemented by the '634 Patent provides a specific and substantial
24 improvement over prior messaging notification systems, resulting in an improved
25 user interface for electronic devices and communications applications on those
26 devices, including by introducing novel elements directed to improving the function
27 and working of communications devices such as, *inter alia*, the claimed "visually
28 modifying at least one displayed icon relating to electronic messaging to include a

1 numeric character representing a count of the plurality of different messaging
2 correspondents for which one or more of the electronic messages have been received
3 and remain unread” (claims 1, 7, and 13), “displaying on the graphical user interface
4 an identifier of the correspondent from whom at least one of the plurality of
5 messages was received” (claim 5), and “displaying on the graphical user interface at
6 least one preview of content associated with at least one of the received electronic
7 messages” (claim 6), “[executable / machine-readable] instructions which, when
8 executed, cause the wireless communication device to visually modify the graphical
9 user interface to include an identifier of the correspondent from whom at least one
10 of the plurality of messages was received” (claims 11 and 17), “[executable /
11 machine-readable] instructions which, when executed, cause the wireless
12 communication device to visually modify the graphical user interface to include at
13 least one preview of content associated with at least one of the received electronic
14 messages” (claim 12 and 18).

15 141. Consistent with the problem addressed being rooted in electronic
16 messaging between wireless communications devices, the ’634 Patent’s solutions
17 naturally are also rooted in the same technology that cannot be performed with pen
18 and paper or in the human mind.

19 142. This technical context is reflected in the ’634 Patent’s claims. For
20 example, various claims of the ’634 Patent require an electronic messaging
21 application, plurality of electronic messages, and a wireless communication device.

22 143. A person having ordinary skill in the art at the time of the inventions of
23 the ’634 Patent would not have understood that the inventions could or would be
24 performed solely in the human mind or using pen and paper. Using pen and paper
25 would ignore the stated purpose of the ’634 Patent and the problem it was
26 specifically designed to address, which arose in the context of needing an improved
27 user interface for small screen computing devices. Doing so would also run counter
28 to the inventors’ detailed description of the inventions and the language of the

1 claims and be a practical impossibility.

2 **'634 Patent Allegations**

3 144. Defendants have infringed and are infringing, either literally or under
4 the doctrine of equivalents, the '634 Patent in violation of 35 U.S.C. § 271 *et seq.*,
5 directly and/or indirectly, by making, using, selling, offering for sale, and/or
6 importing into the United States without authority or license, the Facebook,
7 Facebook Messenger, Facebook Workplace Chat, Facebook Pages Manager,
8 WhatsApp, and Instagram applications (hereinafter "the '634 Accused Products")
9 that infringe at least claims 1, 5-7, 11-13, 17, and 18 of the '634 Patent. The '634
10 Accused Products are non-limiting examples that were identified based on publicly
11 available information, and BlackBerry reserves the right to identify additional
12 infringing activities, products and services, including, for example, on the basis of
13 information obtained during discovery.

14 145. On information and belief after reasonable investigation, the '634
15 Accused Products contain user interface functionality designed and used to display
16 and modify icons relating to electronic messages on a wireless communication
17 device in a manner that infringes the '634 Patent.

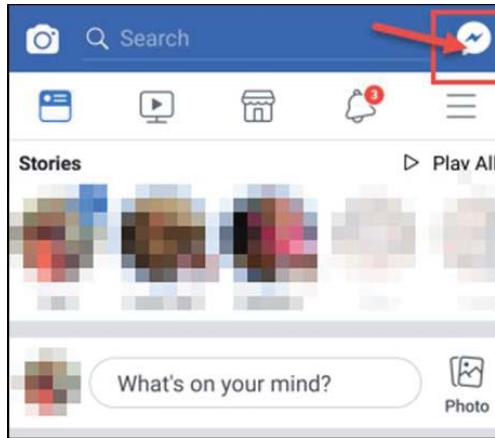
18 146. As just one non-limiting example, set forth below (with claim language
19 in italics) is a description of infringement of exemplary claim 1 of the '634 Patent in
20 connection with the Facebook, Facebook Messenger, Facebook Pages Manager,
21 WhatsApp, and Instagram applications. On information and belief, the Facebook
22 Workplace Chat application implements the same or substantially similar infringing
23 functionality as the Facebook Messenger app.

24 147. This description is based on publicly available information.
25 BlackBerry reserves the right to modify this description, including, for example, on
26 the basis of information about the '634 Accused Products that it obtains during
27 discovery.

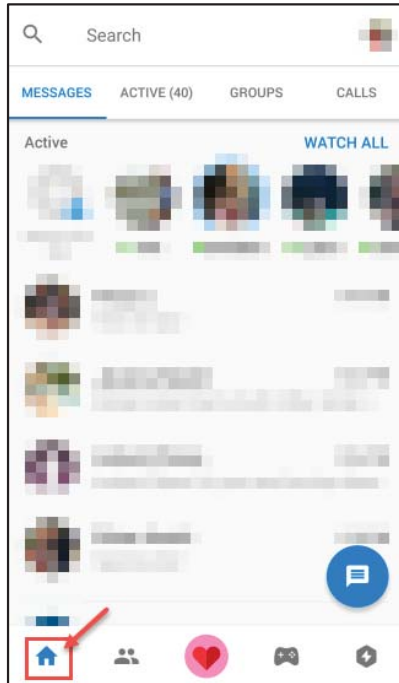
28 *1(a) A method of providing notifications of unread messages on a wireless*

1 *communication device, comprising:* - Defendants make and use Facebook, Facebook
2 Messenger, Facebook Workplace Chat, Facebook Pages Manager, WhatsApp, and
3 Instagram software applications. Regardless of whether the preamble of claim 1
4 adds any substantive limitation to the claim, the claim language is met by the '634
5 Accused Products, as the '634 Accused Products include a method of providing
6 notifications of unread messages on a wireless communications device as further
7 described below for the remaining claim limitations.

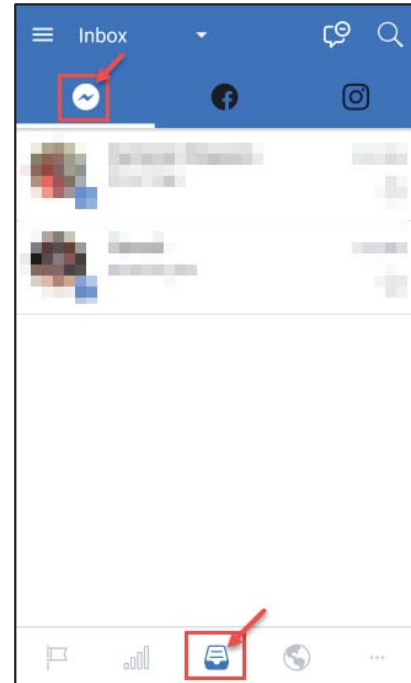
8 *1(b) displaying at least one icon relating to electronic messaging on a*
9 *graphical user interface of the wireless communication device;*



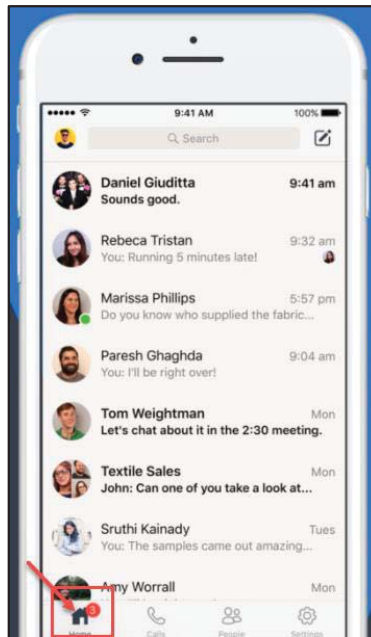
Facebook App

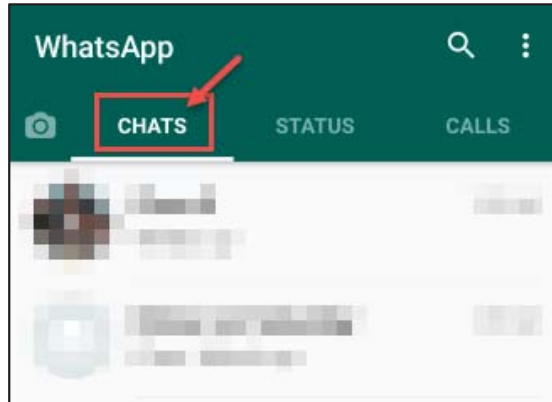


Facebook Messenger

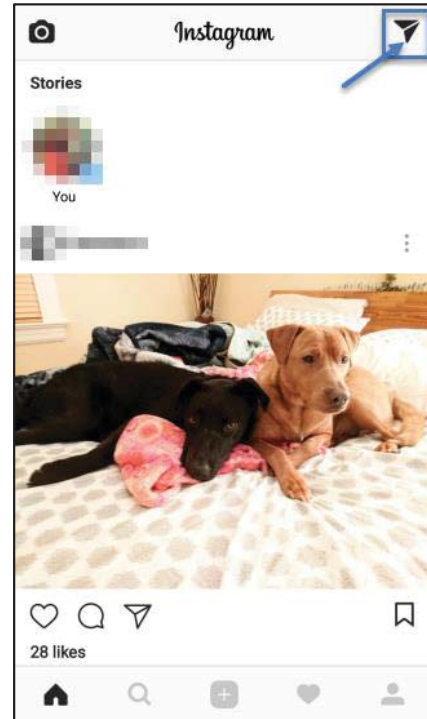


Facebook Pages Manager



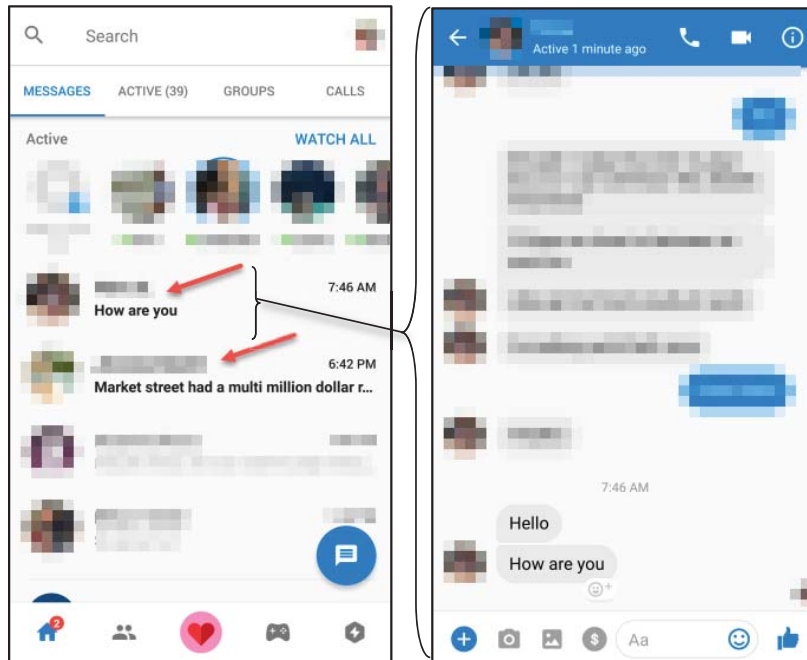


WhatsApp Messenger

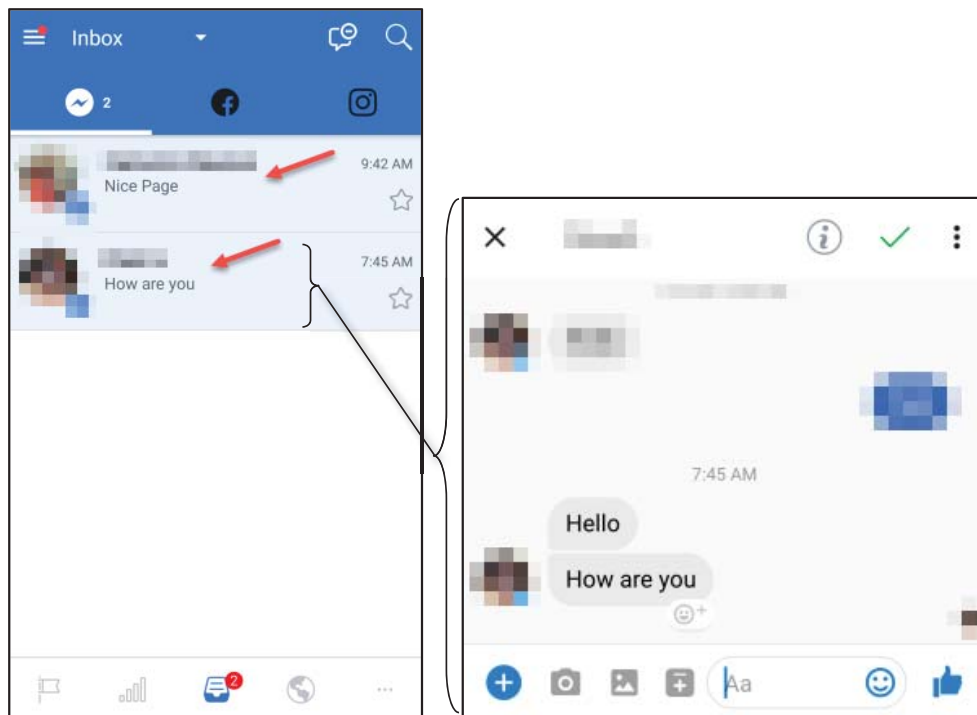


Instagram

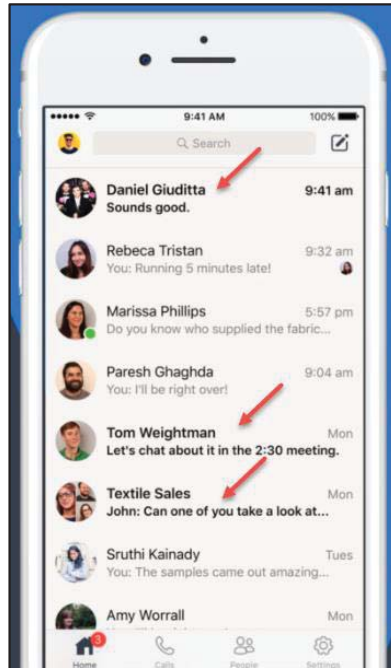
1(c) receiving a plurality of electronic messages on the wireless communication device, the plurality of electronic messages including messages from a plurality of different messaging correspondents; and



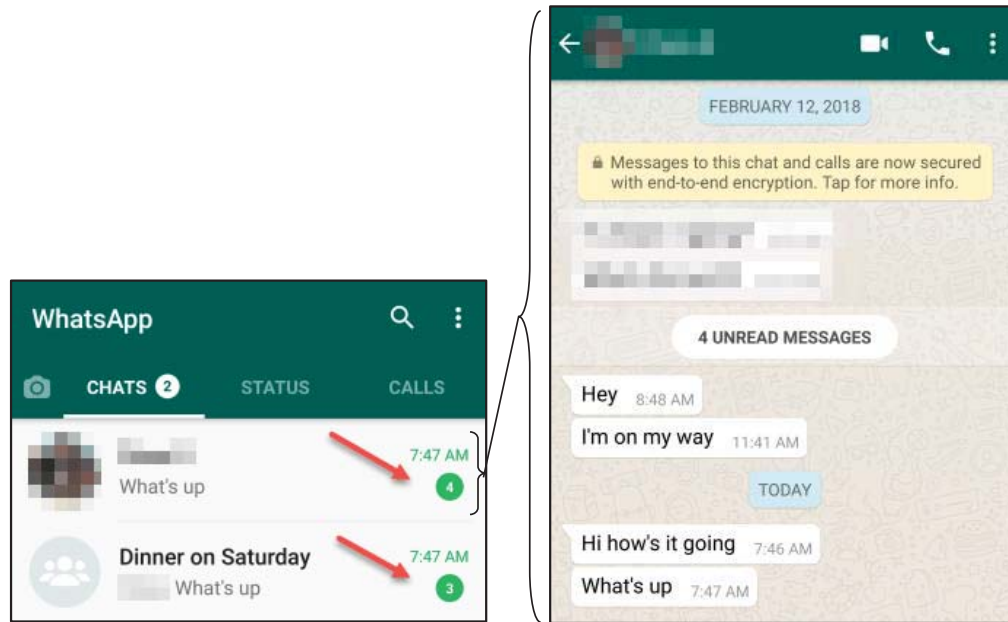
Facebook Messenger



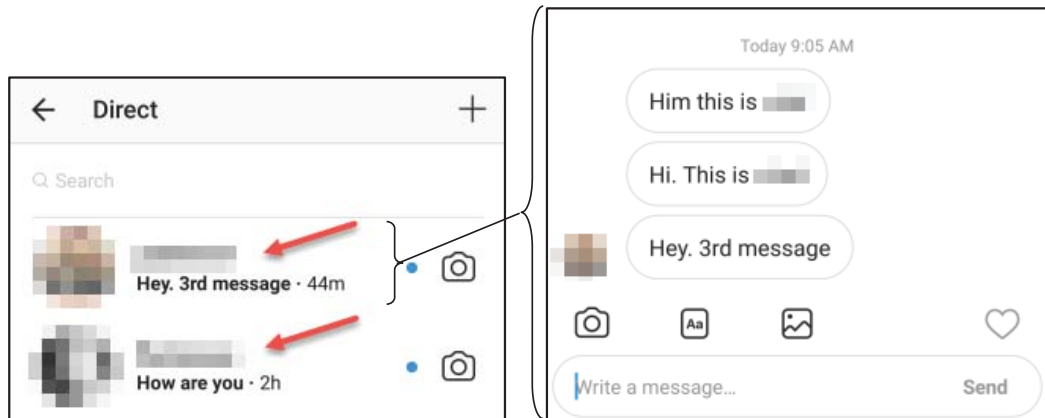
Facebook Pages Manager



Facebook Workplace Chat

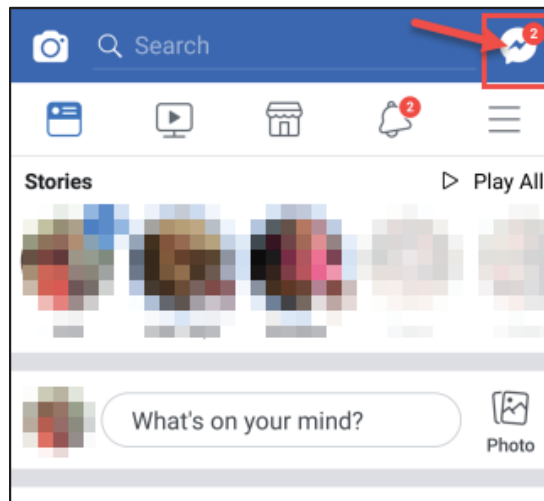


WhatsApp Messenger

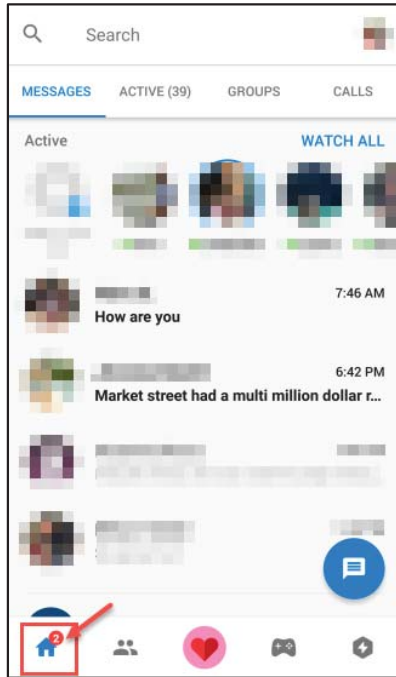


Instagram

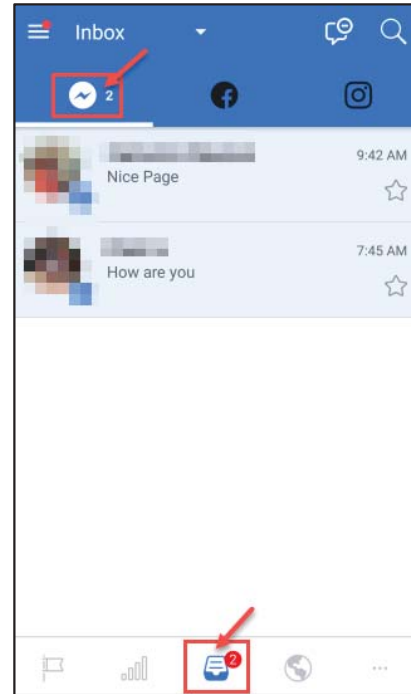
1(d) in response to receiving at least one of the plurality of electronic messages, visually modifying at least one displayed icon relating to electronic messaging to include a numeric character representing a count of the plurality of different messaging correspondents for which one or more of the electronic messages have been received and remain unread.



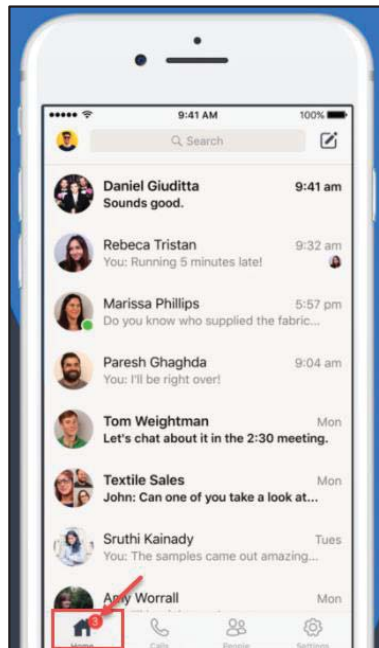
Facebook App



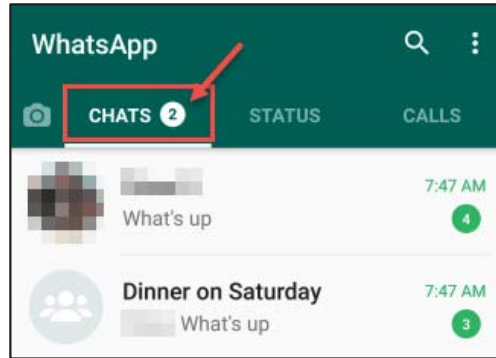
Facebook Messenger



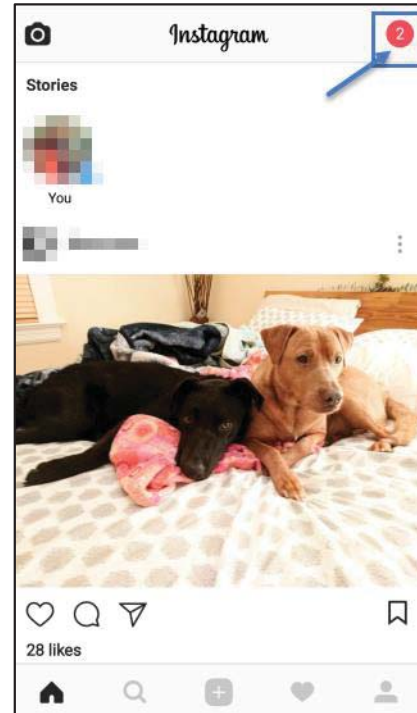
Facebook Pages Manager



Facebook Workplace Chat



WhatsApp Messenger



Instagram

148. Additionally, Defendants have been, and currently are, active inducers of infringement of the '634 Patent under 35 U.S.C. § 271(b) and contributory infringers of the '634 Patent under 35 U.S.C. § 271(c).

149. Defendants knew of the '634 Patent, or should have known of the '634 Patent but were willfully blind to its existence. Upon information and belief, Defendants have had actual knowledge of the '634 Patent since at least as early as the filing and/or service of this Complaint. Additionally, Facebook and WhatsApp were made aware of the '634 Patent and at least WhatsApp's infringement through a notice letter sent from BlackBerry to WhatsApp on March 25, 2016, on which Facebook's General Counsel, Colin Stretch, Esq., was cc'ed. Ex. J. On June 21, WhatsApp's General Counsel sent a response email noting that BlackBerry's assertions had been considered, and further identifying a number of Facebook patents purportedly of interest to BlackBerry. Ex. I. On information and belief, in

1 making these responses, which included specific reference to patents purportedly
2 owned by Facebook, WhatsApp had communicated BlackBerry's assertions to
3 Facebook for Facebook's consideration and analysis. WhatsApp's General Counsel
4 further provided a draft NDA for BlackBerry's review, noting a willingness to meet
5 with BlackBerry's representatives "in-person to discuss after entering into an
6 appropriate NDA." *Id.* On July 27, 2016, counsel for WhatsApp provided further
7 revisions to the proposed NDA; the draft NDA included both Facebook and
8 WhatsApp as parties thereto, evidencing Facebook's involvement in and intent to
9 participate in discussions pertaining to the patents identified by BlackBerry.
10 Facebook and WhatsApp were thus provided abundant and actual knowledge of the
11 '634 Patent (and other patents identified in BlackBerry's letter) and at least
12 WhatsApp's infringement thereof prior to the filing of this Complaint.

13 150. Defendants have provided the '634 Accused Products to their
14 customers and, on information and belief, instructions to use the '634 Accused
15 Products in an infringing manner while being on notice of or willfully blind to the
16 '634 Patent and the Defendants' infringement. Therefore, on information and belief,
17 Defendants knew or should have known of the '634 Patent and of their own
18 infringing acts, or deliberately took steps to avoid learning of those facts.

19 151. Defendants knowingly and intentionally encourage and aid at least their
20 end-user customers to directly infringe the '634 Patent.

21 152. Upon information and belief, Defendants provide the '634 Accused
22 Products to customers through various third-party application stores (*e.g.*, the Apple
23 App Store) and instructions to end-user customers so that such customers will use
24 the '634 Accused Products in an infringing manner. For example, Defendants
25 provide instructions to end-user customers on how to set up, configure, and use
26 various features of the '634 Accused Products, including how to send and receive
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1 messages via the '634 Accused Products.²³

2 153. Defendants' end-user customers directly infringe at least claims 1, 5-7,
3 11-13, 17, and 18 of the '634 Patent by using the '634 Accused Products in their
4 intended manner. Defendants induce such infringement by providing the '634
5 Accused Products and instructions to enable and facilitate infringement, knowing of,
6 or being willfully blind to the existence of, the '634 Patent. Upon information and
7 belief, Defendants specifically intend that their actions will result in infringement of
8 at least claims 1, 5-7, 11-13, 17, and 18 of the '634 Patent, or subjectively believe
9 that their actions will result in infringement of the '634 Patent but took deliberate
10 actions to avoid learning of those facts.

11 154. Additionally, Defendants contributorily infringe at least claims 1, 5-7,
12 11-13, 17, and 18 of the '634 Patent by providing the '634 Accused Products and/or
13 software components thereof, that embody a material part of the claimed inventions
14 of the '634 Patent, that are known by Defendants to be specially made or adapted for
15 use in an infringing manner, and are not staple articles with substantial non-
16 infringing uses. The '634 Accused Products are specially designed to infringe at
17 least claims 1, 5-7, 11-13, 17, and 18 of the '634 Patent, and their accused
18 components have no substantial non-infringing uses. In particular, on information
19 and belief, the software modules and code that implement and perform the
20 infringing functionalities identified above are specially made and adapted to carry
21 out said functionality and do not have any substantial non-infringing uses.

22 155. Additional allegations regarding Defendants' knowledge of the '634
23

24 ²³ See [https://www.facebook.com/help/messenger-](https://www.facebook.com/help/messenger-app/345021679200618/?helpref=hc_fnav&bc[0]=691363354276356&bc[1]=1322973511088245&bc[2]=1835098660060900;)
25 [app/345021679200618/?helpref=hc_fnav&bc\[0\]=691363354276356&bc\[1\]=13229](https://www.facebook.com/help/messenger-app/345021679200618/?helpref=hc_fnav&bc[0]=691363354276356&bc[1]=1322973511088245&bc[2]=1835098660060900;)
26 [73511088245&bc\[2\]=1835098660060900;](https://www.facebook.com/help/messenger-app/1696927533954272/?helpref=hc_fnav&bc[0]=691363354276356&bc[1]=1322973511088245)
27 [https://www.facebook.com/help/messenger-](https://www.facebook.com/help/messenger-app/1696927533954272/?helpref=hc_fnav&bc[0]=691363354276356&bc[1]=1322973511088245)
28 [app/1696927533954272/?helpref=hc_fnav&bc\[0\]=691363354276356&bc\[1\]=1322](https://www.facebook.com/help/messenger-app/1696927533954272/?helpref=hc_fnav&bc[0]=691363354276356&bc[1]=1322973511088245)
[973511088245; https://www.whatsapp.com/download/; https://faq.whatsapp.com/.](https://www.whatsapp.com/download/)

1 Patent and willful infringement will likely have further evidentiary support after a
2 reasonable opportunity for discovery.

3 156. Defendants' infringement of the '634 Patent was and continues to be
4 willful and deliberate, entitling BlackBerry to enhanced damages and attorneys'
5 fees.

6 157. Defendants' infringement of the '634 Patent is exceptional and entitles
7 BlackBerry to attorneys' fees and costs incurred in prosecuting this action under 35
8 U.S.C. § 285.

9 158. BlackBerry has been damaged by Defendants' infringement of the '634
10 Patent and will continue to be damaged unless Defendants are enjoined by this
11 Court. BlackBerry has suffered and continues to suffer irreparable injury for which
12 there is no adequate remedy at law. The balance of hardships favors BlackBerry,
13 and public interest is not disserved by an injunction.

14 159. BlackBerry is entitled to recover from Defendants all damages that
15 BlackBerry has sustained as a result of Defendants' infringement of the '634 Patent,
16 including without limitation lost profits and not less than a reasonable royalty.

17 **COUNT III: INFRINGEMENT OF U.S. PATENT NO. 8,279,173**

18 160. BlackBerry incorporates by reference and re-alleges all of the foregoing
19 paragraphs of this Complaint as if fully set forth herein.

20 **The '173 Patent**

21 161. The '173 Patent discloses, among other things, "a user interface for
22 selecting a photo tag" and includes "a method of selecting a photo tag for a tagged
23 photo, comprising: providing a tag entry field for entering a photo tag; in
24 dependence upon a string entered by a user, displaying in a matching tag list any
25 tags from one or more selected tag sources matching the entered string. The method
26 may further comprise displaying a tag type for each tag appearing in the matching
27 tag list." '173 Patent, Abstract.

28 162. The '173 Patent explains that while identifying people or objects in

1 photographs is popular in various online contexts, “[s]electing a ‘tag’ to associate
 2 with an identified point in a photograph can be a complicated task if there are many
 3 potential tags to choose from. In addition, [in] wireless mobile communication
 4 device[s] where there are constraints on the size of the display and the flexibility of
 5 the input method, some of these common techniques used on desktops and laptops
 6 with full sized screens do not work as well.” *Id.* at 1:23-29.

7 163. Fig. 3A of the ’173 patent shows “an illustrative user interface screen
 8 300A in which photo tagging module 148A may be configured for tagging a
 9 photograph in accordance with an embodiment. As shown, a photo 301 of a subject
 10 302 is displayed within the boundaries of the user interface. With this user interface,
 11 a tag list 304 may include various tags associated [with] subject 302 or other
 12 subjects or objects within the photo 301.” *Id.* at 4:10-18.

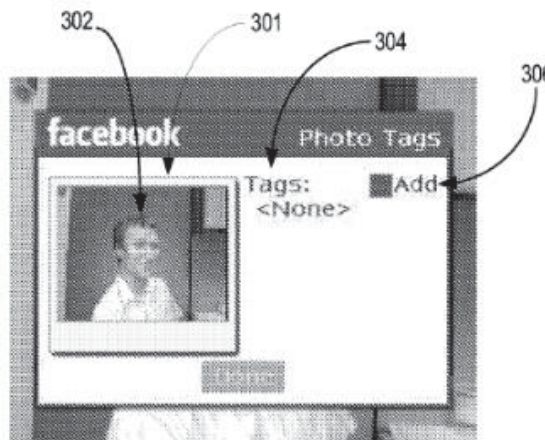
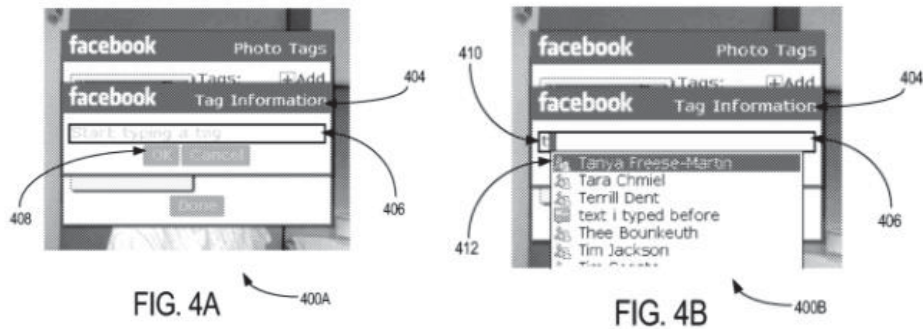


FIG. 3A

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24 164. Figs. 4A and 4B of the ’173 patent show an exemplary tag list
 25 including tag type indicators for the various tag sources included in the list. “As
 26 shown in FIG. 4A, the user is initially presented with a tag entry field 406 indicating
 27 that he should start typing a tag. Upon completion of typing, the user may click
 28 ‘OK’ 408 to select the tag. In an embodiment, as the user begins to type, photo tag

selection module 148B may be configured to search one or more selected ‘tag sources’ for tags that match the currently entered text.” *Id.* at 5:35-42.



165. The ‘173 Patent thus describes, *inter alia*, “[a] method of selecting a photo tag for a tagged photo, comprising: displaying a tag list including tags from one or more tag sources matching a search string; displaying a tag type indicator for each tag appearing in the tag list, said tag type being indicative of a tag source associated with the tag.” *Id.* at claim 1.

The Inventions Claimed in the ‘173 Patent Were Not Well-Understood, Routine, or Conventional

166. A system or method for selecting a photo tag for a tagged photo including displaying a tag list including tags from sources matching a search string and displaying a tag type indicator for each tag appearing in a tag list was not common or conventional at the time of the ‘173 Patent.

167. At the time of filing the ‘173 Patent, the inventors recognized that “[s]electing a ‘tag’ to associate with an identified point in a photograph can be a complicated task if there are many potential tags to choose from.” ‘173 Patent at 1:23-25. The inventors further recognized that this problem is exacerbated in mobile devices, for example, “where there are constraints on the size of the display and the flexibility of the input method.” *Id.* at 1:25-29.

168. The inventors of the ‘173 Patent recognized the benefit of solving this described problem by providing systems and methods for selecting a photo tag

1 wherein a tag list is displayed in response to a search string and a tag type indicator
2 is displayed for each tag appearing in the tag list. Accordingly, users can avoid the
3 confusion of accidentally tagging someone in a photo who shares the same name as
4 the user's friend, but who may be a stranger, a public figure, or the like.
5 Conventional photo tagging systems at the time did not provide the '173 Patent's
6 unconventional feature of providing a tag type indicator for each of the tags
7 displayed in response to a user search. Indeed, the '173 Patent refers specifically to
8 Facebook's photo tagging mechanism at that time to illustrate the deficiencies and
9 inefficiencies in the existing technology that were improved upon by the inventions
10 of the '173 Patent.

11 169. Given the state of the art at the time of the invention of the '173 Patent,
12 the inventive concepts of the '173 Patent were not conventional, well-understood, or
13 routine. The '173 Patent discloses, among other things, an unconventional
14 technological solution to an issue arising specifically in the context of tagging
15 photographs via a graphical user interface. The solution implemented by the '173
16 Patent provides a specific and substantial improvement over prior photo tagging
17 systems, resulting in an improved user interface for electronic devices, including by
18 introducing novel elements directed to improving the function and working of
19 electronic devices such as, *inter alia*, the claimed "tag list including tags from one or
20 more tag sources matching a search string" (claims 1, 7, and 13), "tag type indicator
21 for each tag . . . indicative of a tag source associated with the tag" (same), and "tag
22 entry field for entering [the search string / a photo tag]" (claims 2, 8, 14).

23 170. Consistent with the problem addressed being rooted in electronic user
24 interfaces for photo tagging on computing systems, the '173 Patent's solutions
25 naturally are also rooted in the same technology that cannot be performed with pen
26 and paper or in the human mind.

27 171. This technical context is reflected in the '173 Patent's claims. For
28 example, various claims of the '173 Patent require search strings, tag type

1 indicators, a tag list including tags from one or more tag sources, and a tag entry
2 field.

3 172. A person having ordinary skill in the art at the time of the inventions of
4 the '173 Patent would not have understood that the inventions could or would be
5 performed solely in the human mind or using pen and paper. Using pen and paper
6 would ignore the stated purpose of the '173 Patent and the problem it was
7 specifically designed to address. Doing so would also run counter to the inventors'
8 detailed description of the inventions and the language of the claims and be a
9 practical impossibility.

10 **'173 Patent Allegations**

11 173. Facebook and Instagram have infringed and are infringing, either
12 literally or under the doctrine of equivalents, the '173 Patent in violation of 35
13 U.S.C. § 271 *et seq.*, directly and/or indirectly, by making, using, selling, offering
14 for sale, and/or importing into the United States without authority or license, the
15 www.facebook.com website and Instagram application, respectively, (hereinafter
16 "the '173 Accused Products") that infringe at least claims 1, 2, 7, 8, 13 and 14 of the
17 '173 Patent. The '173 Accused Products are non-limiting examples that were
18 identified based on publicly available information, and BlackBerry reserves the right
19 to identify additional infringing activities, products and services, including, for
20 example, on the basis of information obtained during discovery.

21 174. On information and belief after reasonable investigation, the '173
22 Accused Products contain photo tagging functionality designed and used to provide
23 a tag list including tag type indicators in a manner that infringes the '173 Patent.

24 175. As just one non-limiting example, set forth below (with claim language
25 in italics) is a description of infringement of exemplary claim 1 of the '173 Patent in
26 connection with www.facebook.com and the Instagram application. This
27 description is based on publicly available information. BlackBerry reserves the
28 right to modify this description, including, for example, on the basis of information

1 about the '173 Accused Products that it obtains during discovery.

2 *1(a) A method of selecting a photo tag for a tagged photo, comprising: -*
 3 Facebook makes and uses the social media website, www.facebook.com, and
 4 Instagram makes and uses the Instagram application. Regardless of whether the
 5 preamble of claim 1 adds any substantive limitation to the claim, the claim language
 6 is met by the '173 Accused Products, as the '173 Accused Products includes a
 7 method of operating an electronic device as further described below for the
 8 remaining claim limitations.

9 *1(b) displaying a tag list including tags from one or more tag sources*
 10 *matching a search string;*



Facebook website

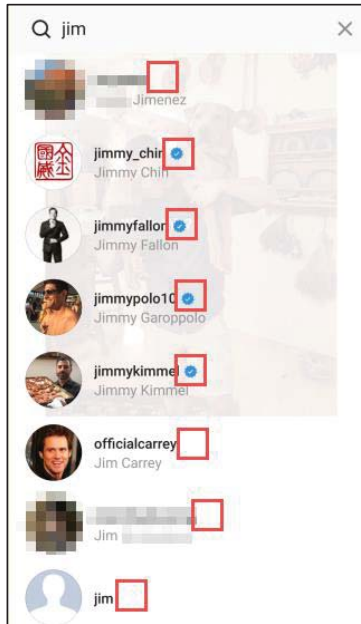


Instagram

1(c) displaying a tag type indicator for each tag appearing in the tag list, said tag type being indicative of a tag source associated with the tag.



Facebook website



Instagram

176. Additionally, Facebook and Instagram have been, and currently are, active inducers of infringement of the '173 Patent under 35 U.S.C. § 271(b) and contributory infringers of the '173 Patent under 35 U.S.C. § 271(c).

177. Facebook and Instagram knew of the '173 Patent, or should have known of the '173 Patent but were willfully blind to its existence. Upon information and belief, Facebook and Instagram have had actual knowledge of the '173 Patent since at least as early as the filing and/or service of this Complaint.

178. Facebook and Instagram have provided the '173 Accused Products to their customers and, on information and belief, instructions to use the '173 Accused Products in an infringing manner while being on notice of or willfully blind to the '173 Patent and Facebook's and Instagram's infringement. Therefore, on information and belief, Facebook and Instagram knew or should have known of the '173 Patent and of their own infringing acts, or deliberately took steps to avoid learning of those facts. Additionally, on information and belief, Facebook knew or should have known of the '173 Patent at least as early as March 7, 2014 when the

1 USPTO cited the '173 Patent to Facebook during prosecution of Facebook's U.S.
2 Patent Application No. 13/117,888; or March 21, 2014 when the USPTO again cited
3 the '173 Patent to Facebook during prosecution of Facebook's U.S. Patent
4 Application No. 13/117,617; or April 24, 2014 when the USPTO for a third time
5 cited the '173 Patent to Facebook during prosecution of Facebook's U.S. Patent
6 Application No. 13/092,443.

7 179. Facebook and Instagram knowingly and intentionally encourage and
8 aid at least their end-user customers to directly infringe the '173 Patent.

9 180. Upon information and belief, Facebook and Instagram provide the '173
10 Accused Products to customers through the www.facebook.com website and various
11 third-party application stores (e.g., the Apple App Store), respectively, and
12 instructions to end-user customers so that such customers will use the '173 Accused
13 Products in an infringing manner. For example, Facebook and Instagram provide
14 instructions to end-user customers on how to set up, configure, and use various
15 features of the '173 Accused Products, including how to tag photos on
16 www.facebook.com and through the Instagram application.²⁴

17 181. Facebook's and Instagram's end-user customers directly infringe at
18 least claims 1, 2, 7, 8, 13, and 14 of the '173 Patent by using the '173 Accused
19 Products in their intended manner. Facebook and Instagram induce such
20 infringement by providing the '173 Accused Products and instructions to enable and
21 facilitate infringement, knowing of, or being willfully blind to the existence of, the
22 '173 Patent. Upon information and belief, Facebook and Instagram specifically
23 intend that their actions will result in infringement of at least claims 1, 2, 7, 8, 13,
24 and 14 of the '173 Patent, or subjectively believe that their actions will result in
25

26 ²⁴ See <https://www.facebook.com/help/227499947267037>;
27 <https://www.facebook.com/help/tag-suggestions>;
28 <https://help.instagram.com/174635396025538>.

1 infringement of the '173 Patent but took deliberate actions to avoid learning of those
2 facts.

3 182. Additionally, Facebook and Instagram contributorily infringe at least
4 claims 1, 2, 7, 8, 13, and 14 of the '173 Patent by providing the '173 Accused
5 Products and/or software components thereof, that embody a material part of the
6 claimed inventions of the '173 Patent, that are known by Facebook and Instagram to
7 be specially made or adapted for use in an infringing manner, and are not staple
8 articles with substantial non-infringing uses. The '173 Accused Products are
9 specially designed to infringe at least claims 1, 2, 7, 8, 13, and 14 of the '173 Patent,
10 and their accused components have no substantial non-infringing uses. In particular,
11 on information and belief, the software modules and code that implement and
12 perform the infringing functionalities identified above are specially made and
13 adapted to carry out said functionality and do not have any substantial non-
14 infringing uses.

15 183. Additional allegations regarding Facebook's and Instagram's
16 knowledge of the '173 Patent and willful infringement will likely have further
17 evidentiary support after a reasonable opportunity for discovery.

18 184. Facebook's and Instagram's infringement of the '173 Patent was and
19 continues to be willful and deliberate, entitling BlackBerry to enhanced damages
20 and attorneys' fees.

21 185. Facebook's and Instagram's infringement of the '173 Patent is
22 exceptional and entitles BlackBerry to attorneys' fees and costs incurred in
23 prosecuting this action under 35 U.S.C. § 285.

24 186. BlackBerry has been damaged by Facebook's and Instagram's
25 infringement of the '173 Patent and will continue to be damaged unless Facebook
26 and Instagram are enjoined by this Court. BlackBerry has suffered and continues to
27 suffer irreparable injury for which there is no adequate remedy at law. The balance
28 of hardships favors BlackBerry, and public interest is not disserved by an injunction.

1 187. BlackBerry is entitled to recover from Facebook and Instagram all
2 damages that BlackBerry has sustained as a result of Facebook's infringement of the
3 '173 Patent, including without limitation lost profits and not less than a reasonable
4 royalty.

5 **COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 8,301,713**

6 188. BlackBerry incorporates by reference and re-alleges all of the foregoing
7 paragraphs of this Complaint as if fully set forth herein.

8 **The '713 Patent**

9 189. The '713 Patent discloses, among other things, "[a]n improved
10 handheld electronic device and an associated method are provided in which time
11 data regarding certain aspects of a messaging conversation on a handheld electronic
12 device are made available to a user," including "in situations where an interruption
13 has occurred during a messaging conversation." '713 Patent, Abstract.

14 190. The '713 Patent explains that in instant messaging conversations,
15 where a conversation proceeds quickly, *i.e.*, substantially without interruption, there
16 isn't a need to provide a time stamp for each individual message. *Id.* at 1:54-58.
17 The patent states that, therefore, "[i]n the environment of a handheld electronic
18 device, it would be desirable to avoid unnecessary time stamps and other
19 unnecessary output since it occupies too much valuable space on the limited display
20 of the handheld electronic device. In some messaging circumstances, however, it
21 may be desirable for information regarding certain timing aspects of conversation to
22 be available to a user." *Id.* at 1:59-62.

23 191. Fig. 4 of the '713 Patent shows an exemplary instant messaging
24 conversation according to the patent that includes "a plurality of incoming messages
25 72 and a plurality of outgoing messages 76 that are transmitted between the devices
26 4 and 104 at a conversational speed, *i.e.*, at a speed in which back-to-back
27 communications between the devices 4 and 104 occur without a meaningful delay
28 therebetween. Due to the conversational speed of the back-to-back communications,

the messages 68 do not include an indication of the times at which such messages 68 were transmitted, it being assumed as a general matter that in such circumstances the specific time at which a given message within such a conversation occurred may not be of significance to a user.” *Id.* at 5:10-22. In the disclosed embodiment, a determination is made that a predetermined duration of time has transpired without a response to the most recent message in the conversation thread. *Id.* at 5:22-38. As shown in Fig. 5, in the exemplary embodiment, “another message 68 may subsequently be communicated between the devices 4 and 104. Since the message 68 corresponds with a resumption of communication between the devices 4 and 104 after a period of interruption, the message 68 is determined to be a resumption message 88, and . . . time stamp 92 is output adjacent the resumption message 88.” *Id.* at 5:62-6:2.

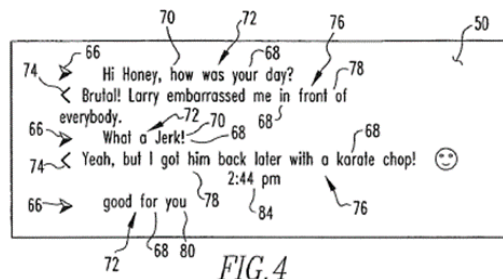


FIG. 4

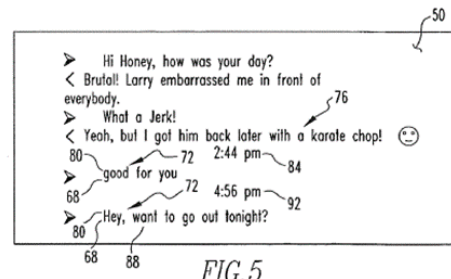


FIG. 5

192. The '713 Patent thus describes, *inter alia*, “[a] method of operating an electronic device, the method comprising: outputting an electronic conversation comprising a plurality of indications, each indication being representative of at least a portion of a corresponding messaging communication between the electronic device and a second electronic device; identifying a first messaging communication between the electronic device and the second electronic device occurring at a first time, the first messaging communication having a corresponding first indication representative of at least a portion of the first messaging communication and which is one of the plurality of indications; determining that a predetermined duration of time has elapsed since the first time without additional communication between the

1 electronic device and the second electronic device during that duration of time;
2 detecting an input to the electronic device following said identifying and
3 determining steps, said input occurring at a second time; and responsive to said
4 detecting an input, outputting in the electronic conversation, a time stamp
5 representative of the second time.” *Id.* at claim 1.

6 **The Inventions Claimed in the ’713 Patent Were Not**
7 **Well-Understood, Routine, or Conventional**

8 193. An electronic device displaying a time stamp associated with an input
9 following a determination that a predetermined duration of time has elapsed since a
10 first messaging communication without additional communication between the
11 device and another electronic device was not common or conventional at the time of
12 the ’713 Patent.

13 194. The inventors of ’713 Patent recognized that, in certain instant
14 messaging conversations where the conversation proceeds quickly, it is not
15 necessary and can be a nuisance to include a time stamp with each message and that
16 “it would be desirable to avoid unnecessary time stamps and other unnecessary
17 output since it occupies too much valuable space on the limited display of the
18 handheld electronic device.” ’713 Patent at 1:59-62. The inventors also recognized
19 that in some circumstances it may be desirable for information regarding timing
20 aspects to be available to the user, but that “the limited space available on a display
21 of a handheld electronic device has made a solution difficult.” *Id.* at 1:63-67.

22 195. The inventors recognized the benefit of solving this problem by
23 providing a method of outputting a time stamp associated with a messaging
24 conversation on an electronic device responsive to a determination that a
25 predetermined period of time has elapsed without response after a first
26 communication. The ’713 Patent explains: “[t]he general nature of the method can
27 be stated as including determining that a first messaging communication has
28 occurred at a first time between the first device and the second device, outputting a

1 first indication that is representative of at least a portion of the first communication,
2 determining that a predetermined period of time has elapsed since the first time
3 substantially without further communication between the first device and the second
4 device and, responsive to determining that a predetermined period of time has
5 elapsed, outputting a first time stamp representative of the first time.” *Id.* at 2:35-
6 45. In this manner, the ’713 Patent is able to strike a desirable balance between
7 displaying sufficient timestamps to provide context for messages in a conversation
8 without taking up too much of a mobile device’s display screen. At the time of the
9 ’713 Patent, timestamps were typically displayed for every message in a
10 conversation or not at all.

11 196. Given the state of the art at the time of the invention of the ’713 Patent,
12 the inventive concepts of the ’713 Patent were not conventional, well-understood, or
13 routine. The ’713 Patent discloses, among other things, an unconventional
14 technological solution to an issue arising specifically in the context of electronic
15 communications between electronic devices. The solution implemented by the ’713
16 Patent provides a specific and substantial improvement over prior electronic
17 messaging systems in electronic devices, including by introducing novel elements
18 directed to improving the function and working of electronic devices such as, *inter*
19 *alia*, the claimed “[determining / determine] that a predetermined duration of time
20 has elapsed since the first time without additional communication between the
21 electronic device and the second electronic device during that duration of time;
22 [detecting / detect] an input to the electronic device following said identifying and
23 determining steps, said input occurring at a second time; and responsive to said
24 detecting an input, [outputting / output] in the electronic conversation, a time stamp
25 representative of the second time” (claims 1, 5, and 9).

26 197. Consistent with the problem addressed being rooted in user interfaces
27 for electronic messaging between wireless communications devices, the ’713
28 Patent’s solutions naturally are also rooted in the same technology that cannot be

1 performed with pen and paper or in the human mind.

2 198. This technical context is reflected in the '713 Patent's claims. For
3 example, various claims of the '713 Patent require an electronic device, an
4 electronic conversation, a messaging communication between the electronic device
5 and a second electronic device, and a display.

6 199. A person having ordinary skill in the art at the time of the inventions of
7 the '713 Patent would not have understood that the inventions could or would be
8 performed solely in the human mind or using pen and paper. Using pen and paper
9 would ignore the stated purpose of the '713 Patent and the problem it was
10 specifically designed to address. Doing so would also run counter to the inventors'
11 detailed description of the inventions and the language of the claims and be a
12 practical impossibility.

13 **'713 Patent Allegations**

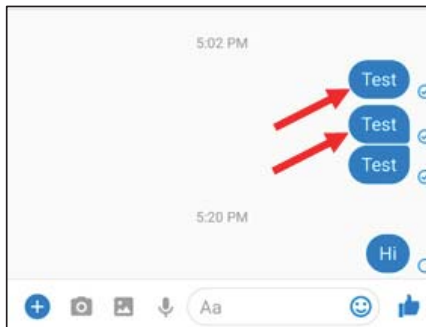
14 200. Defendants have infringed and are infringing, either literally or under
15 the doctrine of equivalents, the '713 Patent in violation of 35 U.S.C. § 271 *et seq.*,
16 directly and/or indirectly, by making, using, selling, offering for sale, and/or
17 importing into the United States without authority or license, the Facebook
18 Messenger, Facebook Messenger Lite, Facebook Pages Manager, Facebook
19 Workplace Chat, WhatsApp, and Instagram applications (hereinafter "the '713
20 Accused Products") that infringe at least claims 1, 5, and 9 of the '713 Patent. The
21 '713 Accused Products are non-limiting examples that were identified based on
22 publicly available information, and BlackBerry reserves the right to identify
23 additional infringing activities, products and services, including, for example, on the
24 basis of information obtained during discovery.

25 201. On information and belief after reasonable investigation, the '713
26 Accused Products contain message time stamping functionality designed and used to
27 provide timing information for messages between electronic devices in a manner
28 that infringes the '713 Patent.

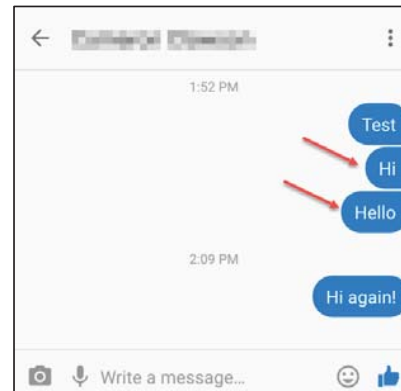
202. As just one non-limiting example, set forth below (with claim language in *italics*) is a description of infringement of exemplary claim 1 of the '713 Patent in connection with the Facebook Messenger, Facebook Messenger Lite, Pages Manager, Workplace Chat, WhatsApp, and Instagram applications. This description is based on publicly available information. BlackBerry reserves the right to modify this description, including, for example, on the basis of information about the '713 Accused Products that it obtains during discovery.

1(a) A method of operating an electronic device, the method comprising: - Defendants make and use the Facebook Messenger, Facebook Messenger Lite, Facebook Pages Manager, Facebook Workplace Chat, WhatsApp, and Instagram software applications. Regardless of whether the preamble of claim 1 adds any substantive limitation to the claim, the claim language is met by the '713 Accused Products, as the '713 Accused Products includes a method of operating an electronic device as further described below for the remaining claim limitations.

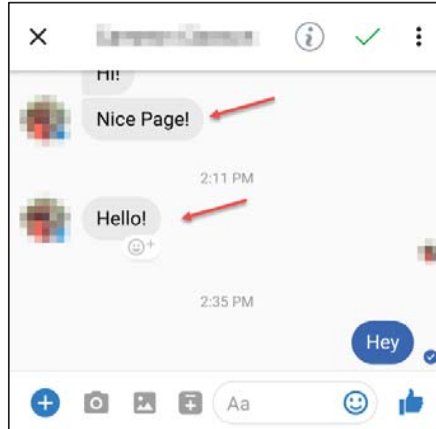
1(b) outputting an electronic conversation comprising a plurality of indications, each indication being representative of at least a portion of a corresponding messaging communication between the electronic device and a second electronic device;



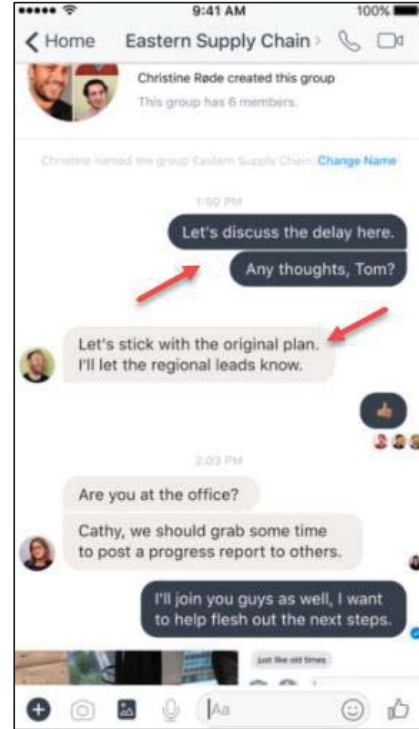
Facebook Messenger



Facebook Messenger Lite



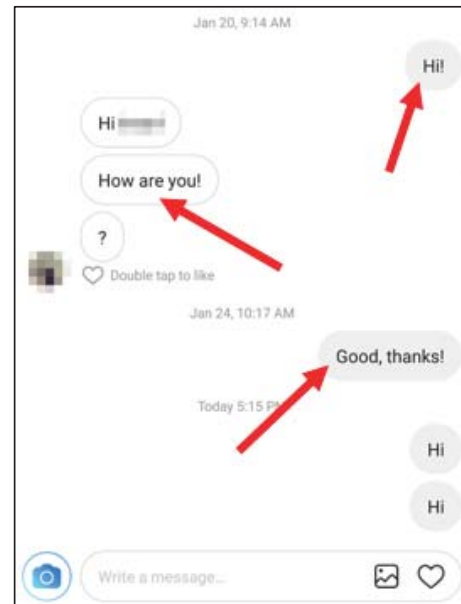
Facebook Pages Manager



Facebook Workplace Chat

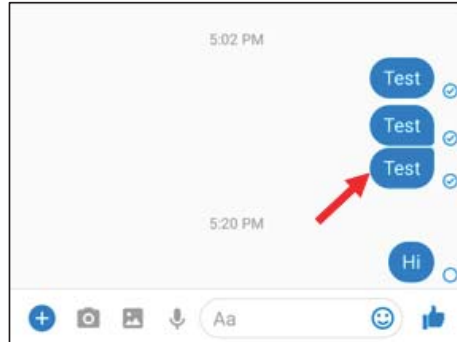


WhatsApp Messenger

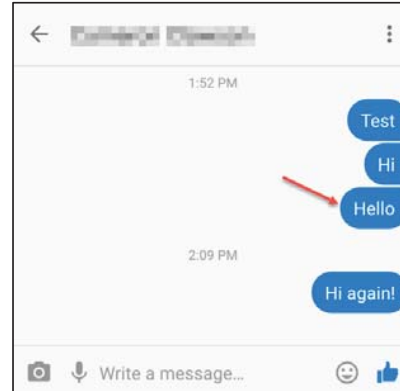


Instagram

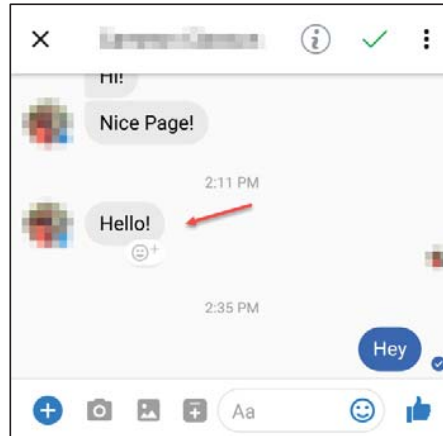
1 1(c) identifying a first messaging communication between the electronic
 2 device and the second electronic device occurring at a first time, the first messaging
 3 communication having a corresponding first indication representative of at least a
 4 portion of the first messaging communication and which is one of the plurality of
 5 indications;



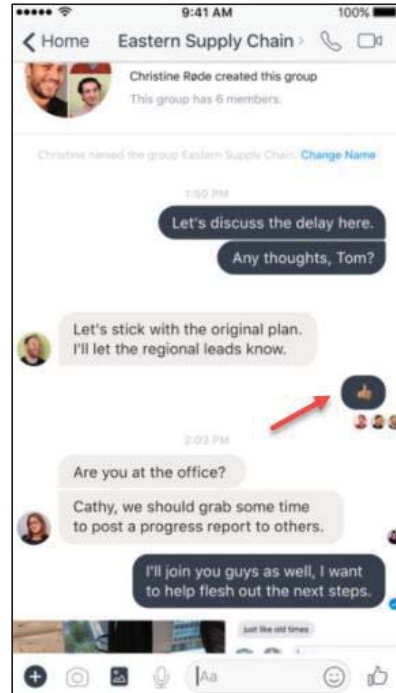
Facebook Messenger



Facebook Messenger Lite



Facebook Pages Manager



Facebook Workplace Chat

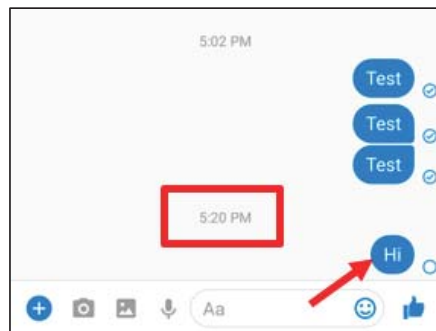


WhatsApp Messenger

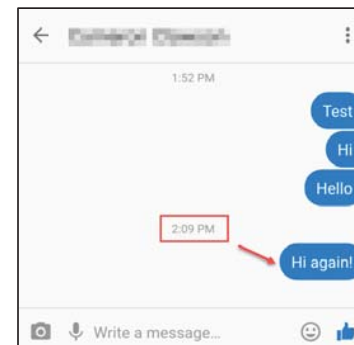


Instagram

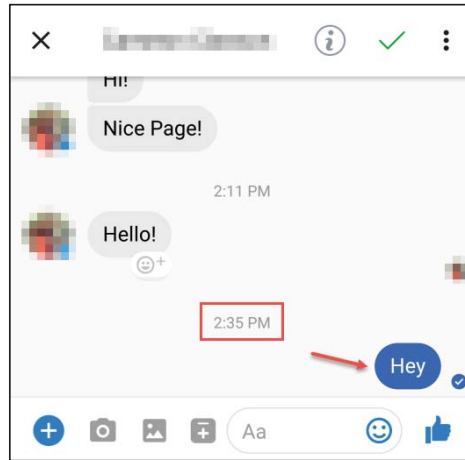
1(d) determining that a predetermined duration of time has elapsed since the first time without additional communication between the electronic device and the second electronic device during that duration of time; 1(e) detecting an input to the electronic device following said identifying and determining steps, said input occurring at a second time; and 1(f) responsive to said detecting an input, outputting in the electronic conversation, a time stamp representative of the second time.



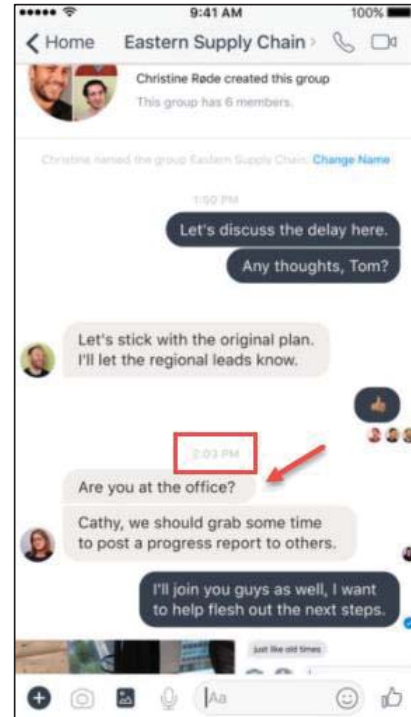
Facebook Messenger



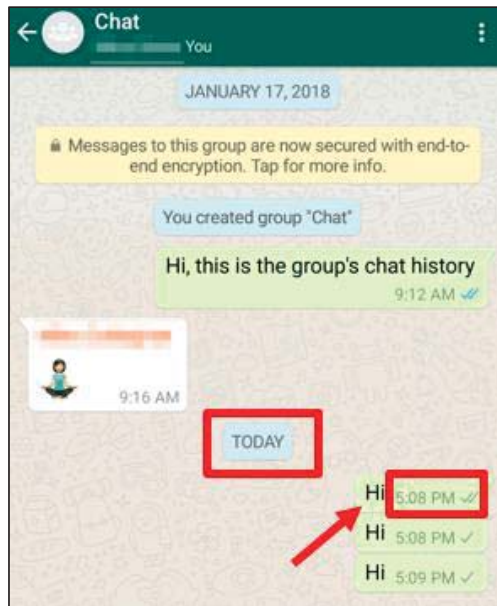
Facebook Messenger Lite



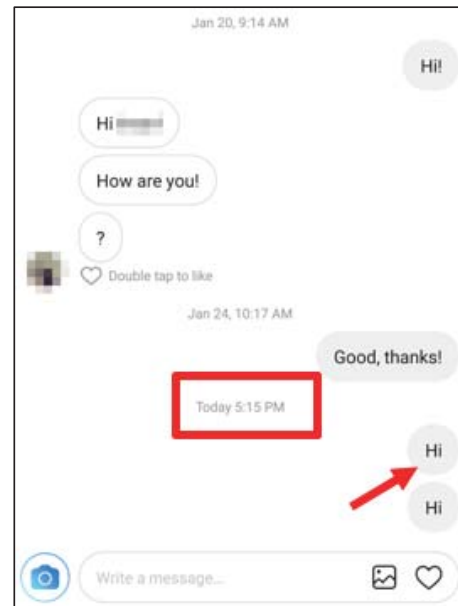
Facebook Pages Manager



Facebook Workplace Chat



WhatsApp Messenger



Instagram

1 203. Additionally, Defendants have been, and currently are, active inducers
2 of infringement of the '713 Patent under 35 U.S.C. § 271(b) and contributory
3 infringers of the '713 Patent under 35 U.S.C. § 271(c).

4 204. Defendants knew of the '713 Patent, or should have known of the '713
5 Patent but were willfully blind to its existence. Upon information and belief,
6 Defendants have had actual knowledge of the '713 Patent since at least as early as
7 the filing and/or service of this Complaint.

8 205. Defendants have provided the '713 Accused Products to their
9 customers and, on information and belief, instructions to use the '713 Accused
10 Products in an infringing manner while being on notice of or willfully blind to the
11 '713 Patent and the Defendants' infringement. Therefore, on information and belief,
12 Defendants knew or should have known of the '713 Patent and of their own
13 infringing acts, or deliberately took steps to avoid learning of those facts.

14 206. Defendants knowingly and intentionally encourage and aid at least their
15 end-user customers to directly infringe the '713 Patent.

16 207. Upon information and belief, Defendants provide the '713 Accused
17 Products to customers through various third-party application stores (e.g., the Apple
18 App Store) and instructions to end-user customers so that such customers will use
19 the '713 Accused Products in an infringing manner. For example, Defendants
20 provide instructions to end-user customers on how to set up, configure, and use
21 various features of the '713 Accused Products, including how to send messages.²⁵

22 208. Defendants' end-user customers directly infringe at least claims 1, 5,
23 and 9 of the '713 Patent by using the '713 Accused Products in their intended
24

25 ²⁵ See [https://www.facebook.com/help/messenger-](https://www.facebook.com/help/messenger-app/345021679200618/?helpref=hc_fnav&bc[0]=691363354276356&bc[1]=1322973511088245&bc[2]=1835098660060900)
26 [app/345021679200618/?helpref=hc_fnav&bc\[0\]=691363354276356&bc\[1\]=13229](https://www.facebook.com/help/messenger-app/345021679200618/?helpref=hc_fnav&bc[0]=691363354276356&bc[1]=1322973511088245&bc[2]=1835098660060900)
27 [73511088245&bc\[2\]=1835098660060900](https://faq.whatsapp.com/); <https://www.whatsapp.com/download/>
28 <https://faq.whatsapp.com/>; <https://help.instagram.com/684926628219030>;
<https://help.instagram.com/155540431448273?helpref=related&ref=related>.

1 manner. Defendants induce such infringement by providing the '713 Accused
2 Products and instructions to enable and facilitate infringement, knowing of, or being
3 willfully blind to the existence of, the '713 Patent. Upon information and belief,
4 Defendants specifically intend that their actions will result in infringement of at least
5 claims 1, 5, and 9 of the '713 Patent, or subjectively believe that their actions will
6 result in infringement of the '713 Patent but took deliberate actions to avoid learning
7 of those facts.

8 209. Additionally, Defendants contributorily infringe at least claims 1, 5,
9 and 9 of the '713 Patent by providing the '713 Accused Products and/or software
10 components thereof, that embody a material part of the claimed inventions of the
11 '713 Patent, that are known by Defendants to be specially made or adapted for use
12 in an infringing manner, and are not staple articles with substantial non-infringing
13 uses. The '713 Accused Products are specially designed to infringe at least claims
14 1, 5, and 9 of the '713 Patent, and their accused components have no substantial
15 non-infringing uses. In particular, on information and belief, the software modules
16 and code that implement and perform the infringing functionalities identified above
17 are specially made and adapted to carry out said functionality and do not have any
18 substantial non-infringing uses.

19 210. Additional allegations regarding Defendants' knowledge of the '713
20 Patent and willful infringement will likely have further evidentiary support after a
21 reasonable opportunity for discovery.

22 211. Defendants' infringement of the '713 Patent was and continues to be
23 willful and deliberate, entitling BlackBerry to enhanced damages and attorneys'
24 fees.

25 212. Defendants' infringement of the '713 Patent is exceptional and entitles
26 BlackBerry to attorneys' fees and costs incurred in prosecuting this action under
27 U.S.C. § 285.

28 213. BlackBerry has been damaged by Defendants' infringement of the '713

1 Patent and will continue to be damaged unless Defendants are enjoined by this
2 Court. BlackBerry has suffered and continues to suffer irreparable injury for which
3 there is no adequate remedy at law. The balance of hardships favors BlackBerry,
4 and public interest is not disserved by an injunction.

5 214. BlackBerry is entitled to recover from Defendants all damages that
6 BlackBerry has sustained as a result of Defendants' infringement of the '713 Patent,
7 including without limitation lost profits and not less than a reasonable royalty.

8 **COUNT V: INFRINGEMENT OF U.S. PATENT NO. 8,429,236**

9 215. BlackBerry incorporates by reference and re-alleges all of the foregoing
10 paragraphs of this Complaint as if fully set forth herein.

11 **The '236 Patent**

12 216. The '236 Patent discloses, among other things, methods and devices for
13 "[s]electing and modifying the transmission rates and sizes of status update
14 messages transmitted by a mobile communications device to a recipient application
15 based on use of the updates by the recipient application." '236 Patent, Abstract.

16 217. The '236 Patent explains that "modern mobile communications devices
17 support a large variety of data-enabled applications, including applications that
18 utilize data generated or collected at the mobile communications device. This may
19 include, for example, applications that are aware of the location of the mobile
20 communications device. Taking advantage of these capabilities, users of mobile
21 communications devices are increasingly mobile and social." *Id.* at 1:21-28.
22 However, "[t]ransmissions from the mobile communications device over a wireless
23 communications system consume resources that would be desirable to conserve" as
24 each transmission sent from such a device consumes power from the device's
25 battery. *Id.* at 1:29-36. The '236 Patent provides a mechanism for a mobile device
26 to efficiently transmit data generated or collected at that device to a different
27 recipient device.

28 218. The '236 Patent explains further, "[m]odern mobile communications

1 devices may have the capability of collecting or generating information. This
2 information may be included in a status update, where each status update has
3 information that has been collected or generated since the previous status update. A
4 mobile communications device may be configured to generate or collect a plurality
5 of status updates during a period of time, and include the plurality of status updates
6 in a status message transmitted over a wireless network to a recipient application.”
7 *Id.* at 2:46-54. One particular form of such status updates described in the ’236
8 Patent are location updates concerning the location of the mobile device. *Id.* 5:10-
9 24.

10 219. The ’236 Patent provides “arrangements which enable a mobile
11 communications device to transmit status updates efficiently over a wireless
12 network to a recipient application. In one solution, the mobile communications
13 device utilizes different message transmission modes based on the activity of the
14 recipient application—*i.e.*, whether or not the recipient application is actively
15 processing status updates. The different message transmission modes may
16 implement different amounts of delay between status messages and number of the
17 status updates included in each status message. In one implementation, the mobile
18 communications device may automatically select a different message transmission
19 mode when the mobile communications device determines that the recipient
20 application is actively processing status updates.” *Id.* at 3:7-20.

21 220. Figures 2 and 3 of the ’236 Patent show exemplary methods by which
22 the patent enables efficient transmission of status updates. “FIG. 2 is a sequence
23 diagram illustrating mobile communications device 110 transmitting status updates
24 using a conservative message transmission mode. In FIG. 2, recipient application
25 250 is not actively processing status updates, and therefore appears as a non-active
26 recipient application 250A. Mobile communications device 110 is generating status
27 updates 201, for example 201A, 201B, 201C, 201D, 201E, 201F, and 201G.” *Id.* at
28 9:54-61. Such a conservative transmission mode is desirable when the recipient

1 application is not actively processing status updates because it allows the sending
 2 device to conserve resources while still allowing the recipient to generate an output
 3 in the future based on the status updates that were sent. *Id.* at 9:48-54. However,
 4 “when a recipient application 250 is actively processing status updates it may be
 5 desirable for the mobile communications device 110 to transmit status messages
 6 using the accelerated message transmission mode. FIG. 3 illustrates the mobile
 7 communications device 110 transmitting status messages, such as status messages
 8 300A, 300B, 300C, 300D and 300E to a recipient application 250B that is actively
 9 processing the status updates to generate an output based on the status updates.” *Id.*
 10 at 10:32-40. Generally, status updates are sent more frequently and/or contain more
 11 data when the sending mobile device operates using the accelerated transmission
 12 mode than when it operates in the conservative transmission mode. *Id.* at 10:60-
 13 11:13.

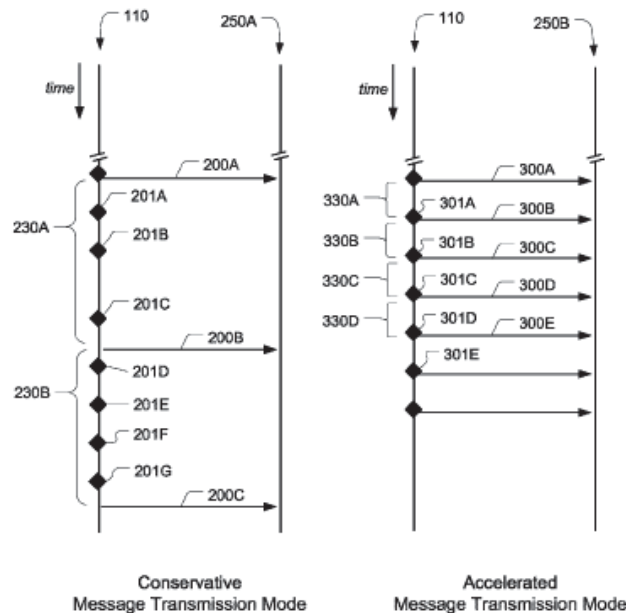


Figure 2

Figure 3

221. The '236 Patent thus describes, *inter alia*, “[a] method in a mobile

1 communications device that transmits status messages to a recipient application,
2 each status message including at least one status update, the method comprising:
3 transmitting status messages using a first message transmission mode; and upon
4 determining that the recipient application is actively processing status updates,
5 transmitting status messages using a second message transmission mode, the second
6 message transmission mode being different from the first message transmission
7 mode.” *Id.*, at claim 1.

8 **The Inventions Claimed in the ’236 Patent Were Not**
9 **Well-Understood, Routine, or Conventional**

10 222. Using a mobile communication device to transmit status messages
11 including status updates to a recipient application using a first transmission mode
12 and, upon determination that the recipient application is actively processing status
13 updates, transmitting status messages using a different second transmission mode
14 was not common or conventional at the time of the invention of the ’236 Patent.

15 223. At the time of the invention of the ’236 Patent, mobile communication
16 devices supported a variety of data-enabled applications, “including applications
17 that utilize data generated or collected at the mobile communications device.” ’236
18 Patent at 1:21-24. This generated or collected data, such as the mobile device’s
19 location data, could be transmitted to other recipient devices and applications in the
20 form of status updates. *Id.* at 1:14-17. Repeated transmission of status updates
21 allows a recipient to attain an accurate, near real-time view of the status of the
22 sender or sending application. However, the frequent transmission of status updates
23 taxes the limited resources of the transmitting mobile device, including the device’s
24 battery life and, in some instances, bandwidth, as every transmission consumes
25 power and could also utilize a wireless communications channel. *Id.* at 1:33-36.
26 The ’236 Patent’s inventors therefore recognized that “[t]o conserve resources, a
27 solution for efficient transmission of status updates from mobile communications
28 devices would provide an advance in the field.” *Id.* at 1:37-39.

1 224. The inventors of the '236 Patent recognized that an efficient means of
2 transmitting status updates from a mobile communications device could be provided
3 by utilizing different transmission modes based on whether or not the recipient
4 application is actively processing status updates. *Id.* at 3:7-13. For example, the
5 mobile communications device may implement different amounts of delay between
6 status update messages or may adjust the amount of data contained in each message
7 depending on the transmission mode. *Id.* at 3:13-16. The transmitting mobile
8 device thereby tailors the way in which it transmits status updates based on a
9 determination of the recipient's use thereof thereby allowing the transmitting device
10 to conserve resources during times when the recipient is not actively processing
11 status updates. *Id.* at 3:20-24.

12 225. Given the state of the art at the time of the invention of the '236 Patent,
13 the inventive concepts of the '236 Patent cannot be considered to be conventional,
14 well-understood, or routine. The '236 Patent discloses, among other things, an
15 unconventional solution to an issue specifically arising in the context of mobile
16 communications devices and offered a technological solution to that issue resulting
17 in improved communications devices, including by introducing novel elements
18 directed to improving the function and working of communications devices such as,
19 *inter alia*, the claimed "transmitting status messages using a first message
20 transmission mode; and upon determining that the recipient application is actively
21 processing status updates, transmitting status messages using a second message
22 transmission mode, the second message transmission mode being different from the
23 first message transmission mode" (claim 1), "a mode selector configured to
24 determine whether a recipient application is actively processing status updates and
25 to select a message transmission mode based on whether the recipient application is
26 actively processing status updates" (claim 15), and "a message generator configured
27 to generate status messages and to cause transmission of status messages from the
28 mobile communications device to a recipient application using the selected message

1 transmission mode” (claim 15).

2 226. Consistent with the problem addressed being rooted in electronic
3 communications devices and systems, the '236 Patent's solutions naturally are also
4 rooted in the same technology that cannot be performed with pen and paper or in the
5 human mind.

6 227. This technical context is reflected in the '236 Patent's claims. For
7 example, various claims of the '236 Patent require a mobile communications device,
8 a recipient application, first and second transmission modes, a mode selector, and a
9 message generator.

10 228. A person having ordinary skill in the art at the time of the inventions of
11 the '236 Patent would not have understood that the inventions could or would be
12 performed solely in the human mind or using pen and paper. Using pen and paper
13 would ignore the stated purpose of the '236 Patent and the problem it was
14 specifically designed to address. Doing so would also run counter to the inventors'
15 detailed description of the invention and the language of the claims and be a
16 practical impossibility.

17 **'236 Patent Allegations**

18 229. Defendants Facebook and WhatsApp have infringed and are infringing,
19 either literally or under the doctrine of equivalents, the '236 Patent in violation of 35
20 U.S.C. § 271 *et seq.*, directly and/or indirectly, by making, using, selling, offering
21 for sale, and/or importing into the United States without authority or license, the
22 Facebook Messenger and WhatsApp Messenger applications (hereinafter “the '236
23 Accused Products”) that infringe at least claims 1-2, 4, and 15-16 of the '236 Patent.
24 The '236 Accused Products are non-limiting examples that were identified based on
25 publicly available information, and BlackBerry reserves the right to identify
26 additional infringing activities, products and services, including, for example, on the
27 basis of information obtained during discovery.

28 230. On information and belief after reasonable investigation, the '236

1 Accused Products contain status update transmission functionality designed and
 2 used to transmit status messages in different modes depending on whether a
 3 recipient application is actively processing status updates in a manner that infringes
 4 the '236 Patent.

5 231. As just one non-limiting example, set forth below (with claim language
 6 in italics) is a description of infringement of exemplary claim 1 of the '236 Patent in
 7 connection with the "Share Live Location" feature of the Facebook Messenger and
 8 WhatsApp Messenger applications. On information and belief, Facebook
 9 Messenger's "Live Location" is materially the same functionality as WhatsApp
 10 Messenger's "Share Live Location" feature, thereby also infringing the claim.

11 232. This description is based on publicly available information.
 12 BlackBerry reserves the right to modify this description, including, for example, on
 13 the basis of information about the '236 Accused Products that it obtains during
 14 discovery.

15 *1(a) A method in a mobile communications device that transmits status*
 16 *messages to a recipient application, each status message including at least one*
 17 *status update, the method comprising:* - Facebook and WhatsApp make and use the
 18 Facebook Messenger and WhatsApp Messenger software applications. Regardless
 19 of whether the preamble of claim 1 adds any substantive limitation to the claim, the
 20 claim language is met by the '236 Accused Products, as the '236 Accused Products
 21 include a method in a mobile communications device that transmits status messages
 22 to a recipient application, each status message including at least one status update—
 23 such as a status update of the device's location—as further described below for the
 24 remaining claim limitations. See, e.g., [https://newsroom.fb.com/news/2015/06/a-](https://newsroom.fb.com/news/2015/06/a-new-way-to-send-a-location-in-messenger/)
 25 [new-way-to-send-a-location-in-messenger/](https://newsroom.fb.com/news/2015/06/a-new-way-to-send-a-location-in-messenger/);
 26 <https://newsroom.fb.com/news/2017/03/introducing-live-location-in-messenger/>
 27 ("Today we're excited to announce a new way to share your location in Messenger.
 28 Our new Live Location feature makes it simple and seamless for you to choose to

1 share where you are with your friends and family. This is rolling out globally and is
 2 available on both iOS and Android.”); [https://blog.whatsapp.com/10000634/Share-](https://blog.whatsapp.com/10000634/Share-your-live-location)
 3 [your-live-location](https://blog.whatsapp.com/10000634/Share-your-live-location) (“Today, we’re rolling out a new feature that allows you to share
 4 your location in real-time with family or friends. Whether you’re meeting up with
 5 friends, letting loved ones know you’re safe, or sharing your commute, Live
 6 Location is a simple and secure way to let people know where you are.”).

7 *1(b) transmitting status messages using a first message transmission mode;*
 8 *and;*

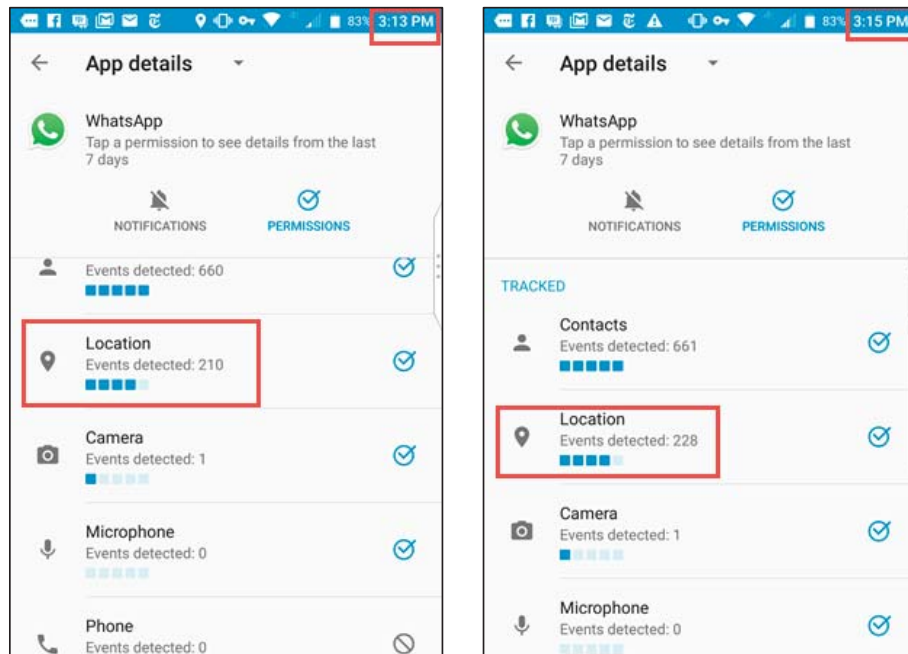


Facebook Messenger

WhatsApp Messenger

23 Based on statements made by Zafir Khan, Product Manager at WhatsApp,
 24 WhatsApp Messenger transmits in different modes depending on whether a recipient
 25 is currently viewing a shared location. Regarding the WhatsApp “Share Live
 26 Location” feature, Mr. Khan stated: “[w]e have special techniques to help conserve
 27 your battery when sharing live location. So it takes into account a number of
 28 different factors, such as how long you’ve been sharing your live location, *whether*

1 someone on the other end who you are sharing with is actually looking at the map,
 2 your current battery level.”²⁶ On information and belief, Facebook Messenger
 3 implements the same functionality in order to preserve device battery life. Further,
 4 the images below show analytics taken from the WhatsApp Messenger application
 5 over a two-minute period wherein the application was sharing live location
 6 information with a recipient and the recipient device was not actively viewing the
 7 location information. During this two-minute period, WhatsApp accessed the
 8 sending device's location data a total of 18 times.

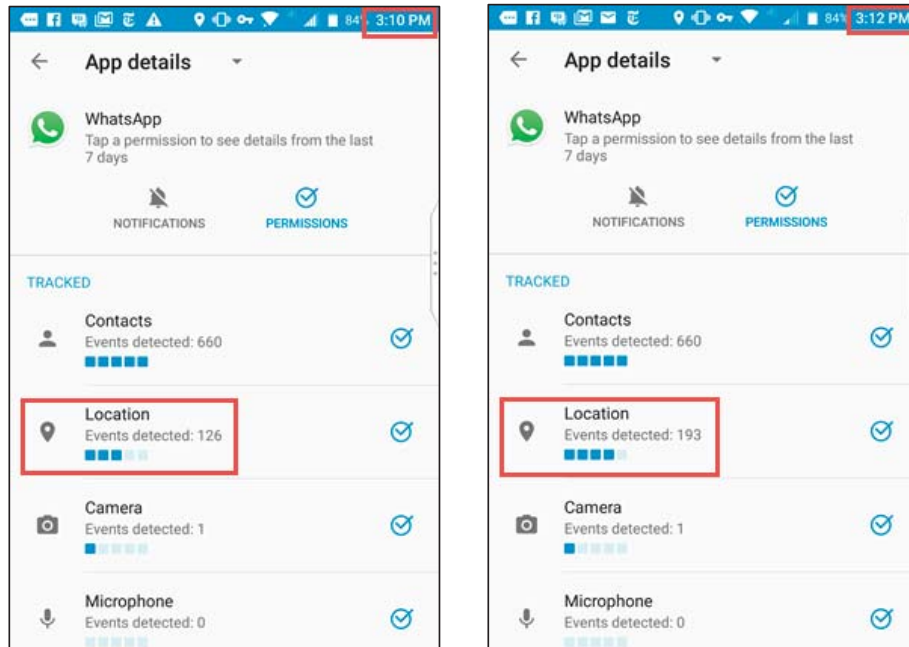


22 1(c) upon determining that the recipient application is actively processing
 23 status updates, transmitting status messages using a second message transmission
 24 mode, the second message transmission mode being different from the first message
 25 transmission mode. - Based on statements made by Zafir Khan, Product Manager at

26
 27 ²⁶ See <https://gadgets.ndtv.com/apps/news/whatsapp-live-location-sharing-feature-tracking-apk-android-how-to-get-it-1764236>.
 28

1 WhatsApp, WhatsApp Messenger transmits in different modes depending on
2 whether a recipient is currently viewing a shared location. Regarding the WhatsApp
3 “Share Live Location” feature, Mr. Khan stated: “[w]e have special techniques to
4 help conserve your battery when sharing live location. So it takes into account a
5 number of different factors, such as how long you’ve been sharing your live
6 location, *whether someone on the other end who you are sharing with is actually*
7 *looking at the map*, your current battery level.”²⁷ On information and belief,
8 Facebook Messenger implements the same functionality in order to preserve device
9 battery life. Further, the images below show analytics taken from the WhatsApp
10 Messenger application over a two-minute period wherein the application was
11 sharing live location information with a recipient and the recipient device was
12 actively viewing the location information. During this two-minute period,
13 WhatsApp accessed the sending device’s location data a total of 67 times. A
14 sending mobile device using WhatsApp’s “Share Live Location” function accesses
15 the device’s location data and, on information and belief, transmits location updates
16 based on that data far more frequently when a recipient is actively viewing the
17 transmitted location updates.

18
19
20
21
22
23
24
25
26
27 ²⁷ *Id.*
28



233. Additionally, Facebook and WhatsApp have been, and currently are, active inducers of infringement of the '236 Patent under 35 U.S.C. § 271(b) and contributory infringers of the '236 Patent under 35 U.S.C. § 271(c).

234. Facebook and WhatsApp knew of the '236 Patent, or should have known of the '236 Patent but were willfully blind to its existence. Upon information and belief, Facebook and WhatsApp have had actual knowledge of the '236 Patent since at least as early as the filing and/or service of this Complaint.

235. Facebook and WhatsApp have provided the '236 Accused Products to their customers and, on information and belief, instructions to use the '236 Accused Products in an infringing manner while being on notice of or willfully blind to the '236 Patent and Facebook's and WhatsApp's infringement. Therefore, on information and belief, Facebook and WhatsApp knew or should have known of the '236 Patent and of their own infringing acts, or deliberately took steps to avoid learning of those facts.

236. Facebook and WhatsApp knowingly and intentionally encourage and

1 aid at least their end-user customers to directly infringe the '236 Patent.

2 237. Upon information and belief, Facebook and WhatsApp provide the
3 '236 Accused Products to customers through various third-party application stores
4 (e.g., the Apple App Store), and instructions to end-user customers so that such
5 customers will use the '236 Accused Products in an infringing manner. For
6 example, Facebook and WhatsApp provide instructions to end-user customers on
7 how to set up, configure, and use various features of the '236 Accused Products, as
8 well as to use Live Location functionality.²⁸

9 238. Facebook's and WhatsApp's end-user customers directly infringe at
10 least claims 1-2, 4, and 15-16 of the '236 Patent by using the '236 Accused Products
11 in their intended manner. Facebook and WhatsApp induce such infringement by
12 providing the '236 Accused Products and instructions to enable and facilitate
13 infringement, knowing of, or being willfully blind to the existence of, the '236
14 Patent. Upon information and belief, Facebook and WhatsApp specifically intend
15 that their actions will result in infringement of at least claims 1-2, 4, and 15-16 of
16 the '236 Patent, or subjectively believe that their actions will result in infringement
17 of the '236 Patent but took deliberate actions to avoid learning of those facts.

18 239. Additionally, Facebook and WhatsApp contributorily infringe at least
19 claims 1-2, 4, and 15-16 of the '236 Patent by providing the '236 Accused Products
20 and/or software components thereof that embody a material part of the claimed
21 inventions of the '236 Patent, that are known by Facebook and WhatsApp to be
22 specially made or adapted for use in an infringing manner, and are not staple articles
23

24 ²⁸ See [https://newsroom.fb.com/news/2017/03/introducing-live-location-in-](https://newsroom.fb.com/news/2017/03/introducing-live-location-in-messenger/)
25 [messenger/](https://newsroom.fb.com/news/2017/03/introducing-live-location-in-messenger/); <https://www.facebook.com/help/messenger-app/1256099024444800>;
26 [https://newsroom.fb.com/news/2015/06/a-new-way-to-send-a-location-in-](https://newsroom.fb.com/news/2015/06/a-new-way-to-send-a-location-in-messenger/)
27 [messenger/](https://newsroom.fb.com/news/2015/06/a-new-way-to-send-a-location-in-messenger/); <https://blog.whatsapp.com/10000634/Share-your-live-location>;
28 <https://faq.whatsapp.com/en/android/26000049/>;
<https://faq.whatsapp.com/en/iphone/26000053/?category=5245251>.

1 with substantial non-infringing uses. The '236 Accused Products are specially
 2 designed to infringe at least claims 1-2, 4, and 15-16 of the '236 Patent, and their
 3 accused components have no substantial non-infringing uses. In particular, on
 4 information and belief, the software modules and code that implement and perform
 5 the infringing functionalities identified above are specially made and adapted to
 6 carry out said functionality and do not have any substantial non-infringing uses.

7 240. Additional allegations regarding Facebook's and WhatsApp's
 8 knowledge of the '236 Patent and willful infringement will likely have further
 9 evidentiary support after a reasonable opportunity for discovery.

10 241. Facebook's and WhatsApp's infringement of the '236 Patent was and
 11 continues to be willful and deliberate, entitling BlackBerry to enhanced damages
 12 and attorneys' fees.

13 242. Facebook's and WhatsApp's infringement of the '236 Patent is
 14 exceptional and entitles BlackBerry to attorneys' fees and costs incurred in
 15 prosecuting this action under 35 U.S.C. § 285.

16 243. BlackBerry has been damaged by Facebook's and WhatsApp's
 17 infringement of the '236 Patent and will continue to be damaged unless Facebook
 18 and WhatsApp are enjoined by this Court. BlackBerry has suffered and continues to
 19 suffer irreparable injury for which there is no adequate remedy at law. The balance
 20 of hardships favors BlackBerry, and public interest is not disserved by an injunction.

21 244. BlackBerry is entitled to recover from Facebook and WhatsApp all
 22 damages that BlackBerry has sustained as a result of Facebook's and WhatsApp's
 23 infringement of the '236 Patent, including without limitation lost profits and not less
 24 than a reasonable royalty.

25 **COUNT VI: INFRINGEMENT OF U.S. PATENT NO. 8,677,250**

26 245. BlackBerry incorporates by reference and re-alleges all of the foregoing
 27 paragraphs of this Complaint as if fully set forth herein.

28 **The '250 Patent**

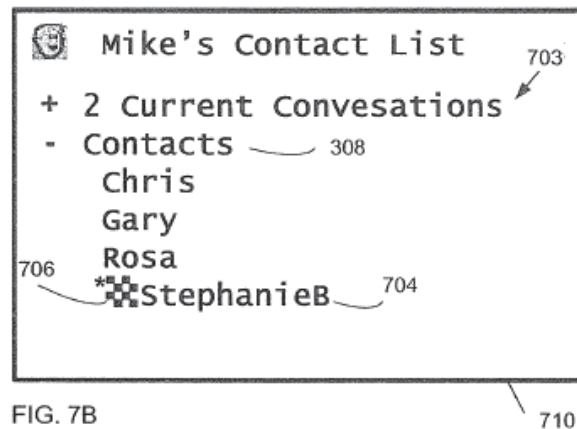
1 246. The '250 Patent discloses, among other things, systems and methods
2 for “enabling a game to be played on an electronic device, comprising: enabling a
3 game application on the electronic device to utilize a contact list for an instant
4 messaging application, during a game in progress with a particular contact in the
5 contact list, preparing game messages to be sent to the particular contact by
6 including game progress data, communicating at least one game message during the
7 game in progress with the particular contact using an instant messaging system used
8 by the instant messaging application; displaying at least one instant message in an
9 instant messaging conversation user interface; and displaying a game in progress
10 user interface associated with the game play, after detecting a selection in the instant
11 messaging conversation user interface to switch to the game in progress.” ’250
12 Patent, Abstract.

13 247. The '250 Patent explains that “[c]ommunication devices such as
14 personal computers, wireless mobile telephones, personal data assistants, etc. often
15 provide data communication abilities to users. One currently popular form of such
16 communication is Instant Messaging (IM) facilitated by an application having a
17 graphical user interface (GUI) whereby two or more users of different
18 communication devices can engage in a conversational data communication
19 exchange.” *Id.* at 1:23-30.

20 248. The '250 Patent also explains that “[t]o permit IM message exchanges,
21 a user may invite another to agree to receive IM messages and be included in the
22 user’s list of IM contacts (sometimes called an IM friend or buddy in view of the
23 agreement to be a potential IM message recipient).” *Id.* at 1:31-35. Furthermore,
24 “[i]n addition to conducting conversations, an IM user may invite a buddy to engage
25 in an on-line game where two (or more) players take turns during game play to
26 compete against each other. Conventional board and card games such as checkers or
27 poker may be adapted for IM game playing for example, among others. A game may
28 be invoked via a game application interface or from within an IM application

1 providing an interface to a game application.” *Id.* at 1:45-52.

2 249. The ’250 Patent provides a technological improvement in wireless
3 communications and mobile gaming. The ’250 Patent discloses, for example,
4 enabling a game application on an electronic device to utilize a contact list for an
5 instant messaging application for playing games with contacts by identifying game
6 play in the contact list. Fig. 7B illustrates an exemplary instant messaging interface
7 wherein “a single individual contact element (e.g. 704) may represent a contact
8 element for both IM conversation and IM game purposes....” *Id.* at 10:60-63.



18 250. The ’250 Patent further discloses preparing game messages to be sent
19 to a contact during a game in progress with that contact by including game progress
20 data in an instant message with an identifier to associate the data with the game
21 application, sending at least one game message during the game in progress via an
22 instant messaging system, and displaying at least one instant message in an instant
23 messaging conversation indicating game progress. Fig. 5B illustrates an exemplary
24 instant messaging user interface where “[a]s a new move is received from the
25 contact in the associated game in progress, a notification of the new move 522 is
26 presented in the conversation screen (e.g. portion 504) in a manner similar to how a
27 new message is presented.” The ’250 Patent also discloses displaying a game in
28 progress user interface after detecting a selection in the instant messaging user

1 interface to switch to the game in progress. Referring to Fig. 5B, a “user may then
 2 select and open or switch (not shown) to the game in progress from the conversation
 3 interface 520.”

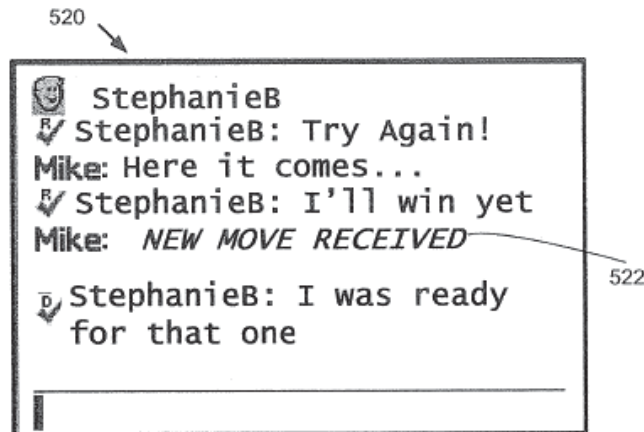


FIG. 5B

251. The '250 Patent thus describes, *inter alia*, “[a] method of enabling a
 game to be played on an electronic device, the method comprising: enabling a game
 application on the electronic device to utilize a contact list for an instant messaging
 application for playing games with contacts in the contact list by identifying game
 play in the contact list; during a game in progress with a particular contact in the
 contact list, preparing game messages to be sent to the particular contact by
 including game progress data in an instant messaging message and an identifier to
 associate the data with the game application; communicating at least one game
 message during the game in progress with the particular contact using an instant
 messaging system used by the instant messaging application; displaying at least one
 instant message in an instant messaging conversation user interface associated with
 the particular contact indicative of game progress, the instant messaging
 conversation user interface enabling additional instant messages to be sent to the
 particular contact in addition to instant messages indicating game play; and
 displaying a game in progress user interface associated with the game play, after
 detecting a selection in the instant messaging conversation user interface to switch

1 to the game in progress.” *Id.* at claim 1.

2 **The Inventions Claimed in the ’250 Patent Were Not**
3 **Well-Understood, Routine, or Conventional**

4 252. An electronic communication device enabling a game application on
5 the device to utilize a contact list for an instant messaging application, prepare and
6 send game messages to a particular contact during a game in progress with the
7 contact using the instant messaging application, and displaying the game in progress
8 interface upon detecting a selection in the instant messaging user interface was not
9 common or conventional at the time of the ’250 Patent.

10 253. At the time of the ’250 Patent, communication device users were able
11 to invite instant messaging contacts to play on-line games. However, the ’250
12 Patent recognizes that “[a] user may play more than one game at a time or play a
13 game in a non-linear manner, leaving a game interface to perform other tasks such
14 as email, calendar review, etc.” ’250 Patent at 1:53-55.

15 254. The inventors of the ’250 Patent recognized the benefit of providing an
16 interface between an instant messaging application and a game in progress, and the
17 inventors solved this problem by, *inter alia*, providing an electronic device enabling
18 a game application to utilize a contact list for an instant messaging application,
19 preparing and sending game messages to a contact during a game in progress with
20 the contact, and enabling a switch to a game in progress user interface associated
21 with the game upon detecting a selection in the instant messaging user interface.

22 255. Given the state of the art at the time of the invention of the ’250 Patent,
23 the inventive concepts of the ’250 Patent were not conventional, well-understood, or
24 routine. The ’250 Patent discloses, among other things, an unconventional solution
25 to an issue arising in the context of electronic communication devices, instant
26 messaging communications applications within those devices, and gaming
27 applications within those devices. The ’250 Patent offered a technological solution
28 to that issue that provides a specific and substantial improvement over prior gaming

1 and messaging platforms in electronic devices, including by introducing novel
2 elements directed to improving the function and working of electronic devices such
3 as, *inter alia*, the claimed “enabling a game application on the electronic device to
4 utilize a contact list for an instant messaging application for playing games with
5 contacts in the contact list by identifying game play in the contact list” (claims 1, 9,
6 and 17), “during a game in progress with a particular contact in the contact list,
7 preparing game messages to be sent to the particular contact by including game
8 progress data in an instant messaging message and an identifier to associate the data
9 with the game application” (same), “communicating at least one game message
10 during the game in progress with the particular contact using an instant messaging
11 system used by the instant messaging application” (same), “displaying at least one
12 instant message in an instant messaging conversation user interface associated with
13 the particular contact indicative of game progress, the instant messaging
14 conversation user interface enabling additional instant messages to be sent to the
15 particular contact in addition to instant messages indicating game play” (same), and
16 “displaying a game in progress user interface associated with the game play, after
17 detecting a selection in the instant messaging conversation user interface to switch
18 to the game in progress” (same).

19 256. Consistent with the problem addressed being rooted in gaming and
20 messaging systems on electronic devices, the ’250 Patent’s solutions naturally are
21 also rooted in the same technology that cannot be performed with pen and paper or
22 in the human mind.

23 257. This technical context is reflected in the ’250 Patent’s claims. For
24 example, various claims of the ’250 Patent require an electronic device, a game
25 application on the electronic device, a contact list for an instant messaging
26 application, an instant messaging message, an instant messaging conversation user
27 interface, and a game in progress user interface.

28 258. A person having ordinary skill in the art at the time of the inventions of

1 the '250 Patent would not have understood that the inventions could or would be
2 performed solely in the human mind or using pen and paper. Using pen and paper
3 would ignore the stated purpose of the '250 Patent and the problem it was
4 specifically designed to address. Doing so would also run counter to the inventors'
5 detailed description of the inventions and the language of the claims and be a
6 practical impossibility.

7 **'250 Patent Allegations**

8 259. Facebook has infringed and is infringing, either literally or under the
9 doctrine of equivalents, the '250 Patent in violation of 35 U.S.C. § 271 *et seq.*,
10 directly and/or indirectly, by making, using, selling, offering for sale, and/or
11 importing into the United States without authority or license, the
12 www.facebook.com website and Facebook Messenger application (hereinafter "the
13 '250 Accused Products") that infringe at least claims 1, 9, and 17 of the '250 Patent.
14 The '250 Accused Products are non-limiting examples that were identified based on
15 publicly available information, and BlackBerry reserves the right to identify
16 additional infringing activities, products and services, including, for example, on the
17 basis of information obtained during discovery.

18 260. On information and belief after reasonable investigation, the '250
19 Accused Products contain functionality designed and used to enable a game
20 application to utilize a contact list for an instant messaging application, to prepare
21 and send game progress messages using the instant messaging application, and to
22 display a game in progress user interface after a selection in the instant messenger
23 interface in a manner that infringes the '250 Patent.

24 261. As just one non-limiting example, set forth below (with claim language
25 in italics) is a description of infringement of exemplary claim 1 of the '250 Patent in
26 connection with www.facebook.com and Facebook Messenger. This description is
27 based on publicly available information. BlackBerry reserves the right to modify
28 this description, including, for example, on the basis of information about the '250

1 Accused Products that it obtains during discovery.

2 *1(a) A method of enabling a game to be played on an electronic device, the*
 3 *method comprising:* - Facebook makes and uses the Facebook Messenger
 4 application and www.facebook.com website. Regardless of whether the preamble
 5 of claim 1 adds any substantive limitation to the claim, the claim language is met by
 6 www.facebook.com and Facebook Messenger, as the Instant Games included in
 7 both www.facebook.com and the Facebook Messenger application enables a game
 8 to be played on an electronic device. *See, e.g.:*



17 [https://newsroom.fb.com/news/2016/11/game-on-you-can-now-play-games-on-](https://newsroom.fb.com/news/2016/11/game-on-you-can-now-play-games-on-messenger/)
 18 [messenger/](https://newsroom.fb.com/news/2016/11/game-on-you-can-now-play-games-on-messenger/).

19 *1(b) enabling a game application on the electronic device to utilize a contact*
 20 *list for an instant messaging application for playing games with contacts in the*
 21 *contact list by identifying game play in the contact list;*

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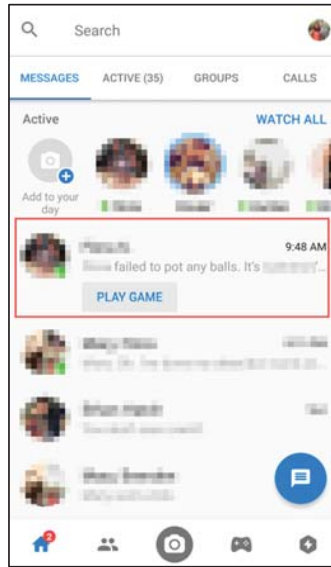
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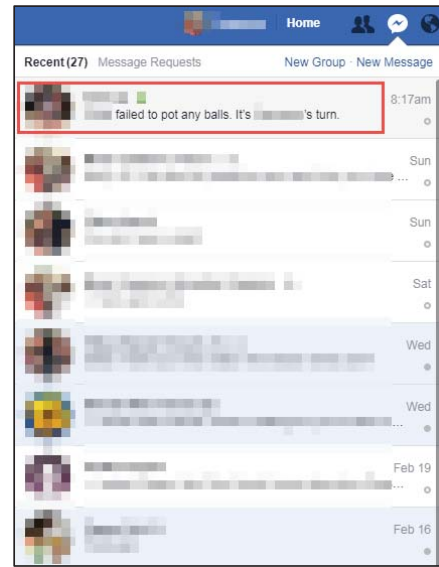
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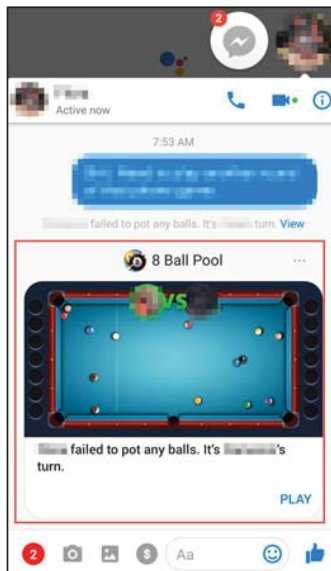


Facebook Messenger

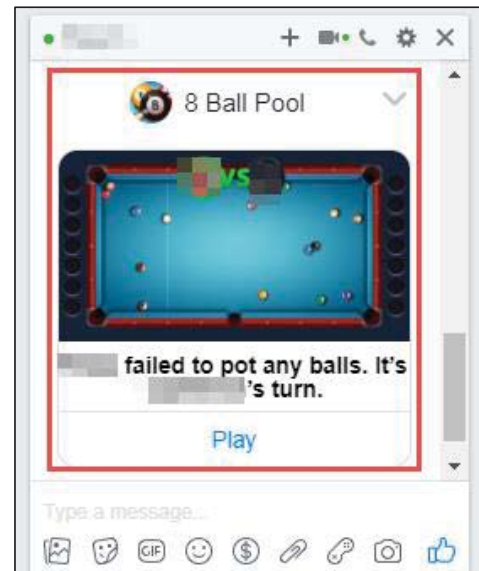


Facebook Website

1(c) during a game in progress with a particular contact in the contact list, preparing game messages to be sent to the particular contact by including game progress data in an instant messaging message and an identifier to associate the data with the game application;

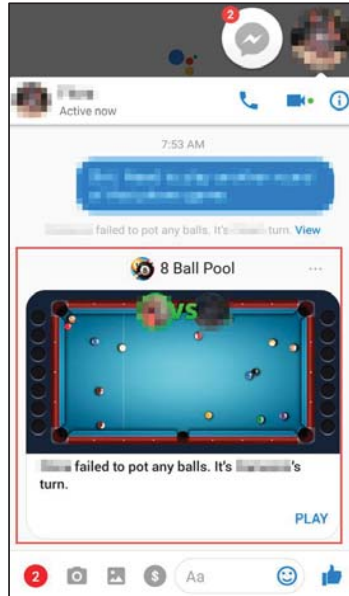


Facebook Messenger

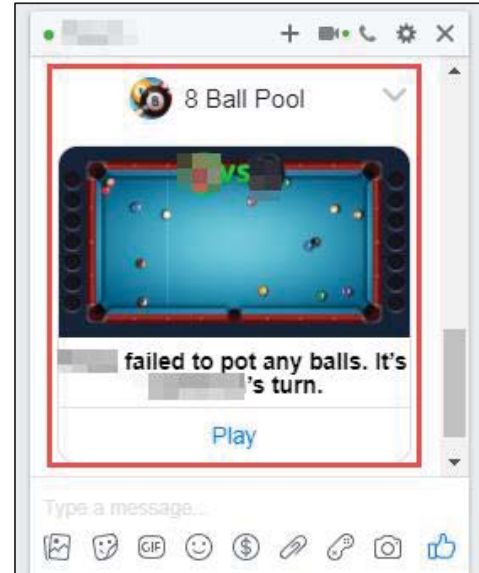


Facebook Website

1 1(d) communicating at least one game message during the game in progress
 2 with the particular contact using an instant messaging system used by the instant
 3 messaging application;

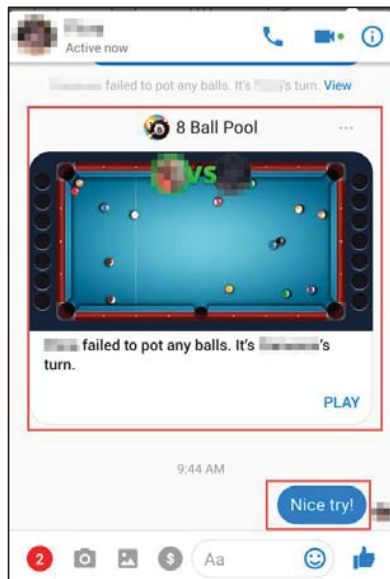


Facebook Messenger

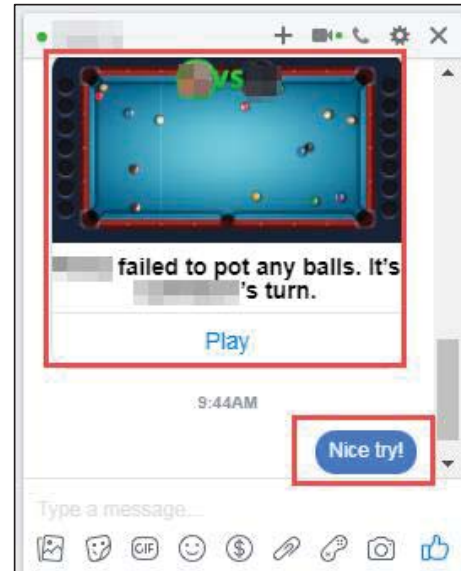


Facebook Website

17 1(e) displaying at least one instant message in an instant messaging
 18 conversation user interface associated with the particular contact indicative of
 19 game progress, the instant messaging conversation user interface enabling
 20 additional instant messages to be sent to the particular contact in addition to instant
 21 messages indicating game play; and

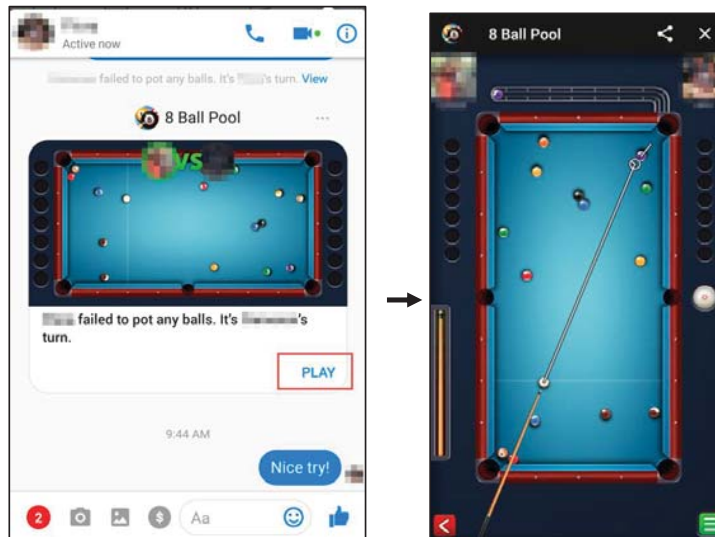


Facebook Messenger

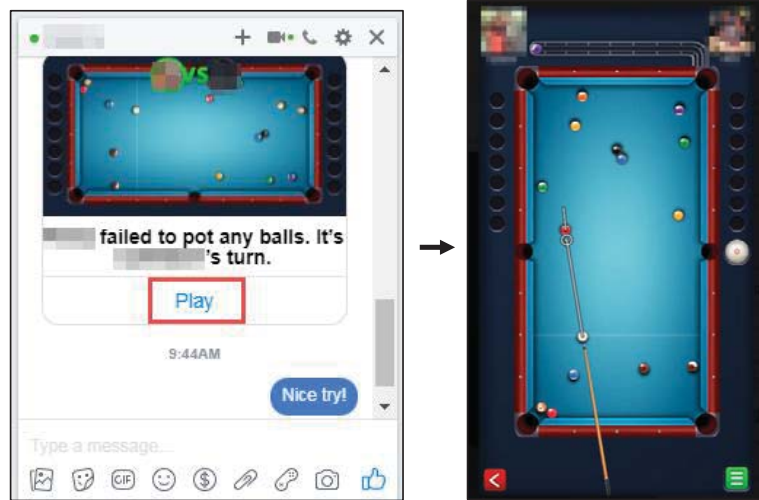


Facebook Website

1(f) displaying a game in progress user interface associated with the game play, after detecting a selection in the instant messaging conversation user interface to switch to the game in progress.



Facebook Messenger



Facebook Website

262. Additionally, Facebook has been, and currently is, an active inducer of infringement of the '250 Patent under 35 U.S.C. § 271(b) and contributory infringer of the '250 Patent under 35 U.S.C. § 271(c).

263. Facebook knew of the '250 Patent, or should have known of the '250 Patent but was willfully blind to its existence. Upon information and belief, Facebook has had actual knowledge of the '250 Patent since at least as early as the filing and/or service of this Complaint.

264. Facebook has provided the '250 Accused Products to its customers and, on information and belief, instructions to use the '250 Accused Products in an infringing manner while being on notice of or willfully blind to the '250 Patent and Facebook's infringement. Therefore, on information and belief, Facebook knew or should have known of the '250 Patent and of its own infringing acts, or deliberately took steps to avoid learning of those facts.

265. Facebook knowingly and intentionally encourages and aids at least its end-user customers to directly infringe the '250 Patent.

266. Upon information and belief, Facebook provides the '250 Accused Products to customers through various third-party application stores (e.g., the Apple

1 App Store) and instructions to end-user customers so that such customers will use
2 the '250 Accused Products in an infringing manner. For example, Facebook
3 provides instructions to end-user customers on how to set up, configure, and use
4 various features of the '250 Accused Products, as well as to play games using
5 Facebook Messenger.²⁹

6 267. Facebook's end-user customers directly infringe at least claims 1, 9,
7 and 17 of the '250 Patent by using the '250 Accused Products in its intended manner
8 to infringe. Facebook induces such infringement by providing the '250 Accused
9 Products and instructions to enable and facilitate infringement, knowing of, or being
10 willfully blind to the existence of, the '250 Patent. Upon information and belief,
11 Facebook specifically intends that its actions will result in infringement of at least
12 claims 1, 9, and 17 of the '250 Patent, or subjectively believes that its actions will
13 result in infringement of the '250 Patent but took deliberate actions to avoid learning
14 of those facts, as set forth above.

15 268. Additionally, Facebook contributorily infringes at least claims 1, 9, and
16 17 of the '250 Patent by providing the '250 Accused Products and/or software
17 components thereof, that embody a material part of the claimed inventions of the
18 '250 Patent, that are known by Facebook to be specially made or adapted for use in
19 an infringing manner, and are not staple articles with substantial non-infringing
20 uses. The '250 Accused Products are specially designed to infringe at least claims
21 1, 9, and 17 of the '250 Patent, and its accused components have no substantial non-
22 infringing uses. In particular, on information and belief, the software modules and
23 code that implement and perform the infringing functionalities identified above are
24 specially made and adapted to carry out said functionality and do not have any
25 substantial non-infringing uses.

26 _____
27 ²⁹ See [https://newsroom.fb.com/news/2016/11/game-on-you-can-now-play-games-](https://newsroom.fb.com/news/2016/11/game-on-you-can-now-play-games-on-messenger/)
28 [on-messenger/](https://newsroom.fb.com/news/2016/11/game-on-you-can-now-play-games-on-messenger/); <https://www.facebook.com/help/357155771011033>.

1 269. Additional allegations regarding Facebook’s knowledge of the ’250
2 Patent and willful infringement will likely have further evidentiary support after a
3 reasonable opportunity for discovery.

4 270. Facebook’s infringement of the ’250 Patent was and continues to be
5 willful and deliberate, entitling BlackBerry to enhanced damages and attorneys’
6 fees.

7 271. Facebook’s infringement of the ’250 Patent is exceptional and entitles
8 BlackBerry to attorneys’ fees and costs incurred in prosecuting this action under 35
9 U.S.C. § 285.

10 272. BlackBerry has been damaged by Facebook’s infringement of the ’250
11 Patent and will continue to be damaged unless Facebook is enjoined by this Court.
12 BlackBerry has suffered and continues to suffer irreparable injury for which there is
13 no adequate remedy at law. The balance of hardships favors BlackBerry, and public
14 interest is not disserved by an injunction.

15 273. BlackBerry is entitled to recover from Facebook all damages that
16 BlackBerry has sustained as a result of Facebook’s infringement of the ’250 Patent,
17 including without limitation lost profits and not less than a reasonable royalty.

18 **COUNT VII: INFRINGEMENT OF U.S. PATENT NO. 9,349,120**

19 274. BlackBerry incorporates by reference and re-alleges all of the foregoing
20 paragraphs of this Complaint as if fully set forth herein.

21 **The ’120 Patent**

22 275. The ’120 Patent discloses, among other things, “[m]ethods, systems,
23 and computer programming products . . . for silencing message threads” whereby
24 “[o]nce a message thread has been silenced, the user will no longer receive
25 notifications of new messages added to the thread.” ’120 Patent, Abstract.

26 276. The ’120 Patent explains that “[e]lectronic messages, such as electronic
27 mail messages and messages posted to group sites, can be grouped into message
28 threads. Each message thread can relate to a particular matter such as a particular

1 topic of conversation or an activity. For example, a user may be part of an email
2 group which is involved in an ongoing discussion. Each email in the discussion
3 could be included in the same message thread. A user may receive a notification
4 each time an electronic message is received. Notifications could include, for
5 example, auditory user alerts such as ring tones, visual alerts such as flashing lights
6 or pop-ups and physical alerts such as vibrations.” *Id.* at 1:22-32.

7 277. The ’120 Patent provides a user with the capability to silence such
8 notifications on a per-thread basis, thereby overriding a currently enabled
9 notification setting and allowing notifications to be received for other non-silenced
10 threads. *Id.* at 2:22-49. Figures 5 and 6 of the ’120 Patent detail an exemplary
11 method by which such notification silencing for a method thread occurs. As shown
12 in Fig. 5, “[a] method 500 can begin at 502 where a user can, using suitably-
13 configured GUI(s) and input device, select a message inbox. [An] inbox generally
14 refers to a virtual folder with which incoming messages are initially associated. . . .
15 At 504, the user selects a message thread using, for example, a user interface such as
16 a GUI 304, displaying one or more selectable options such as a list of one or more
17 message threads. A message thread may be selected by the user by, for example,
18 selecting a displayed, selectable option associated with the message thread using
19 point-and-click functionality as described above. At 506, a user can silence a
20 message thread or reactivate a message thread that had previously been silenced
21 with respect to a device the user is using.” *Id.* at 11:11-13:1.

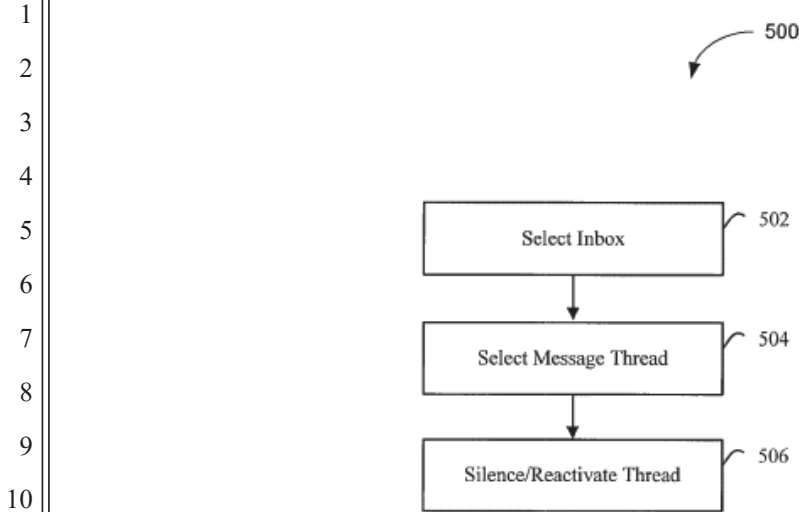


FIG. 5

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278. Fig. 6 shows an exemplary method of handling an incoming electronic message depending on whether or not the message thread with which the message is associated has been silenced. “A method 600 can begin at 602 where a message is received which is addressed or otherwise identified in such a way as to be associated with an inbox. . . . At 604, it may be determined whether or not the message relates to a new matter, such as a new topic of conversation or a new activity. . . . If the message does relate to a new matter, at 606, a new message thread is started. At 608, the user is notified of the message according to any currently-enabled notification settings, as described above. If the message does not relate to a new matter, at 610, a thread to which the message belongs may be determined. . . . At 612, it is may determined whether or not the message thread to which the message belongs has been silenced by the user. For example, a data record in memory 300 which is associated with the message thread may be checked to determine whether a flag has been set indicating that the thread has been silenced. If the message thread has been silenced by the user then no notification may be activated. . . . If the message thread

has not been silenced by the user, then at 616 the user may be notified of the incoming message according to any currently-enabled notification settings.” *Id.* at 14:5-55.

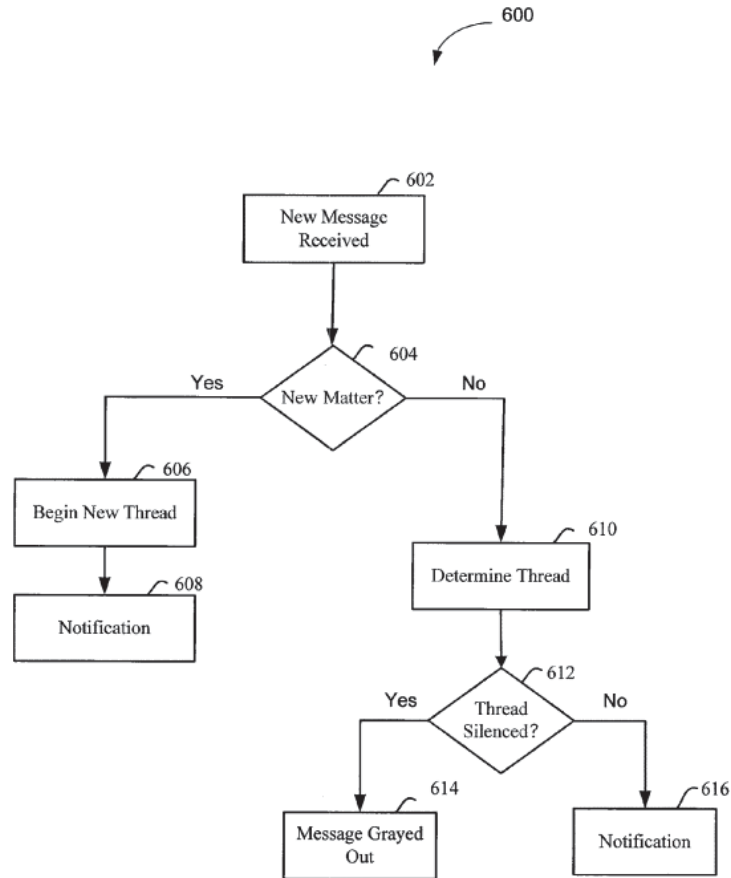


FIG. 6

279. The '120 Patent thus describes, *inter alia*, “[a] method for silencing notifications for incoming electronic messages to a communication system, the communication system comprising a data processor, media readable by the data processor and a communications subsystem, the communications subsystem adapted to receive the incoming electronic messages, the method comprising: receiving one or more selected message threads for silencing; in response to receiving the one or

1 more selected message threads, activating one or more flags, each flag in association
2 with a selected message thread of the one or more selected message threads, wherein
3 the one or more flags indicate that the associated one or more selected message
4 threads have been silenced; receiving a new incoming electronic message;
5 identifying the new incoming message as associated with the selected one or more
6 message threads; determining that a message thread associated with the new
7 incoming message has been flagged as silenced using the one or more flags;
8 overriding at least one currently-enabled notification setting to prevent a notification
9 pertaining to receipt of the new incoming message from being activated; and
10 displaying the new incoming electronic message in an inbox together with any
11 message thread not flagged as silenced, while silencing any further notifications
12 pertaining to receipt of the new incoming electronic message; wherein the new
13 incoming message thread flagged as silenced is displayed in the inbox in a different
14 manner than any message thread not flagged as silenced.” *Id.* at claim 13.

15 **The Inventions Claimed in the ’120 Patent Were Not**
16 **Well-Understood, Routine, or Conventional**

17 280. A communication system enabling a flag associated with an electronic
18 message thread to be activated in order to silence notifications for the message
19 thread and thereby override a currently-enabled notification setting was not common
20 or conventional at the time of the ’120 Patent.

21 281. The inventor of the ’120 Patent recognized the need in electronic
22 communications systems to silence notifications for specific message threads while
23 still allowing new incoming messages in the silenced threads to be displayed in an
24 inbox together with any message thread not flagged as silenced. ’120 Patent,
25 Abstract. The inventor further identified the benefit of solving this described
26 problem by providing a communication system enabling “receiving a new incoming
27 electronic message; identifying the new incoming message as associated with one or
28 more message threads; determining that a message thread associated with the new

1 incoming message has been flagged as silenced; and overriding at least one
2 currently-enabled notification setting to prevent a notification pertaining to receipt
3 of the new incoming message from being activated.” *Id.* at 2:42-49. Thereby,
4 notifications for messages associated with a specific messaging thread may be
5 silenced while still allowing for notifications from non-silenced message threads.

6 282. Given the state of the art at the time of the invention of the ’120 Patent,
7 the inventive concepts of the ’120 Patent were not conventional, well-understood, or
8 routine. The ’120 Patent discloses, among other things, an unconventional and
9 technological solution to an issue arising specifically in the context of electronic
10 communications systems and electronic messaging received within those
11 communications systems. The solution implemented by the ’120 Patent provides a
12 specific and substantial improvement over prior messaging notification systems,
13 resulting in an improved electronic communications system, including by
14 introducing novel elements directed to improving the function and working of
15 communications systems such as, *inter alia*, the claimed “activating one or more
16 flags, each flag in association with a selected message thread of the one or more
17 selected message threads, wherein the one or more flags indicate that the associated
18 one or more selected message threads have been silenced” (claims 13 and 24;
19 substantially similar limitation in claim 1), “determining that a message thread
20 associated with the new incoming message has been flagged as silenced using the
21 one or more flags” (claims 13 and 24; substantially similar limitation in claim 1),
22 and “displaying the new incoming electronic message in an inbox together with any
23 message thread not flagged as silenced, while silencing any further notifications
24 pertaining to receipt of the new incoming electronic message; wherein the new
25 incoming message thread flagged as silenced is displayed in the inbox in a different
26 manner than any message thread not flagged as silenced” (claims 13 and 24;
27 substantially similar limitation in claim 1).

28 283. Consistent with the problem addressed being rooted in electronic

1 messaging between wireless communications devices, the '120 Patent's solutions
2 naturally are also rooted in the same technology that cannot be performed with pen
3 and paper or in the human mind.

4 284. This technical context is reflected in the '120 Patent's claims. For
5 example, various claims of the '120 Patent require one or more electronic messages
6 associated with one or more message threads, selected message thread(s) for
7 silencing, settings for notifications pertaining to receipt of new incoming electronic
8 messages associated with one or more such threads, and displaying such messages
9 in an inbox.

10 285. A person having ordinary skill in the art at the time of the inventions of
11 the '120 Patent would not have understood that the inventions could or would be
12 performed solely in the human mind or using pen and paper. Using pen and paper
13 would ignore the stated purpose of the '120 Patent and the problem it was
14 specifically designed to address. Doing so would also run counter to the inventors'
15 detailed description of the inventions and the language of the claims and be a
16 practical impossibility.

17 **'120 Patent Allegations**

18 286. Defendants have infringed and are infringing, either literally or under
19 the doctrine of equivalents, the '120 Patent in violation of 35 U.S.C. § 271 *et seq.*,
20 directly and/or indirectly, by making, using, selling, offering for sale, and/or
21 importing into the United States without authority or license, the Facebook
22 Messenger, Facebook Messenger Lite, Facebook Workplace Chat, WhatsApp
23 Messenger, and Instagram applications (hereinafter "the '120 Accused Products")
24 that infringe at least claims 1, 13, and 24 of the '120 Patent.

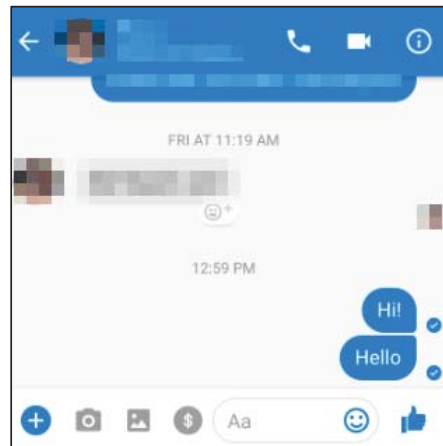
25 287. On information and belief after reasonable investigation, the '120
26 Accused Products contain messaging functionality designed and used to silence
27 notifications for selected conversation threads thereby overriding a currently-
28 enabled notification setting in an infringing manner.

288. As just one non-limiting example, set forth below (with claim language in italics) is a description of infringement of exemplary claim 24 of the '120 Patent in connection with the Facebook Messenger, Facebook Messenger Lite, WhatsApp Messenger, and Instagram software applications. On information and belief, the Facebook Workplace Chat software application implements the same or substantially similar infringing functionality as the Facebook Messenger application.³⁰ This description is based on publicly available information. BlackBerry reserves the right to modify this description, including, for example, on the basis of information about the '120 Accused Products that it obtains during discovery.

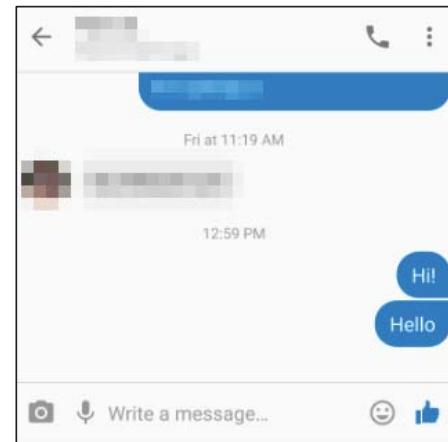
1(a) A non-transitory computer readable medium comprising processing instructions which when executed by a data processor cause the data processor to perform a method for silencing notifications for incoming electronic messages to a communication system, the method comprising: - Defendants make and use the Facebook Messenger, Facebook Workplace Chat, WhatsApp Messenger, and Instagram software applications. Regardless of whether the preamble of claim 1 adds any substantive limitation to the claim, the claim language is met by the '120 Accused Products, as the '120 Accused Products include a non-transitory computer readable medium comprising processing instructions which when executed by a data processor cause the data processor to perform a method of silencing notifications for incoming electronic messages to a communication system as further described below for the remaining claim limitations.

1(b) receiving one or more selected message threads for silencing;

³⁰ See, e.g., <https://www.facebook.com/help/work-chat/iphone/447690225439543>; <https://www.facebook.com/help/messenger-app/330627630326605?helpref=topq>.



Facebook Messenger



Facebook Messenger Lite

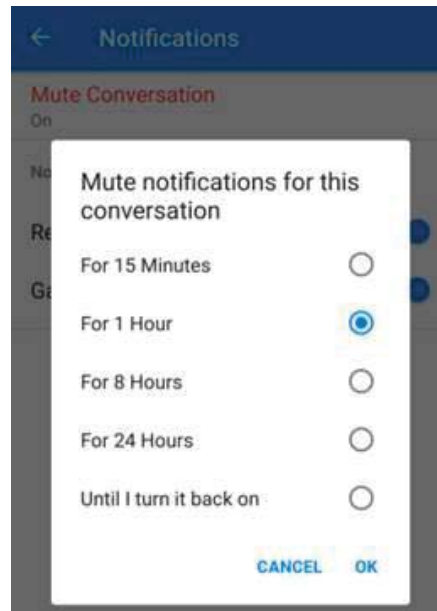


WhatsApp Messenger

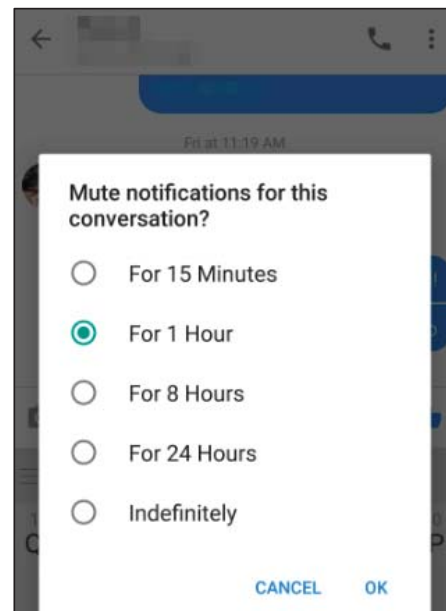


Instagram Direct

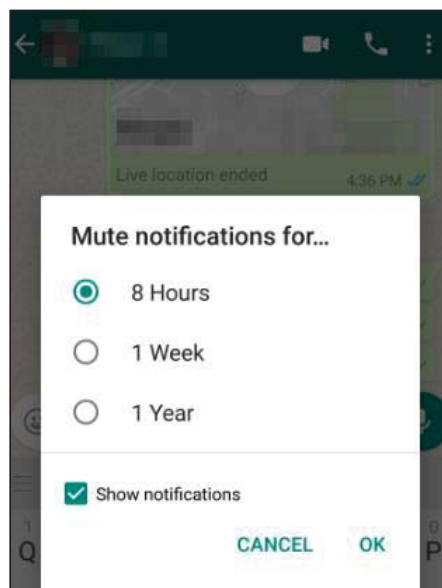
1(c) in response to receiving the one or more selected message threads, activating one or more flags, each flag in association with a selected message thread of the one or more selected message threads, wherein the one or more flags indicate that the associated one or more selected message threads have been silenced;



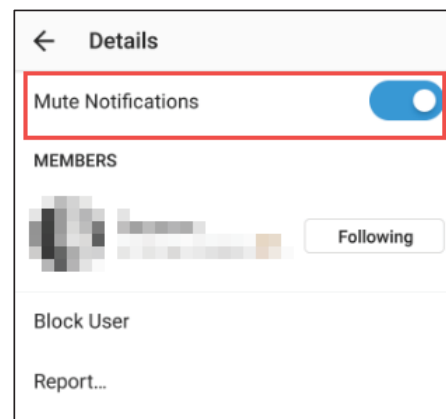
Facebook Messenger



Facebook Messenger Lite

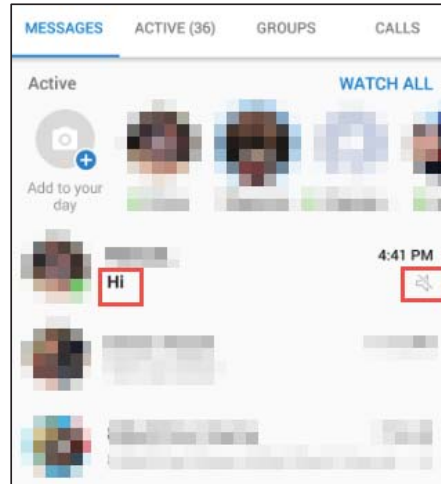


WhatsApp Messenger

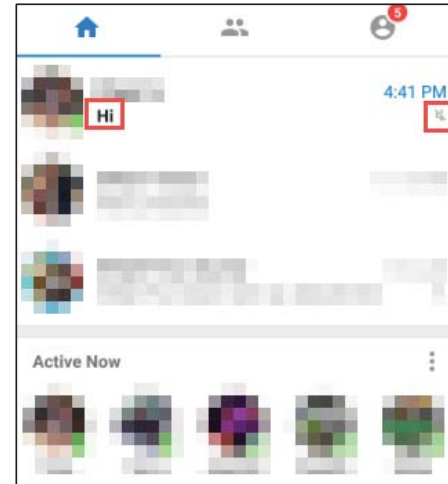


Instagram Direct

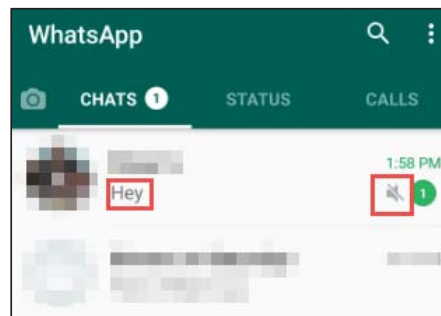
1 1(d) identifying the new incoming message as associated with the selected one
 2 or more message threads; determining that a message thread associated with the
 3 new incoming message has been flagged as silenced using the one or more flags;



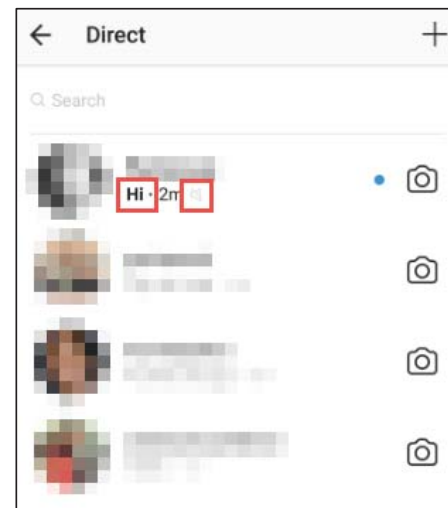
Facebook Messenger



Facebook Messenger Lite

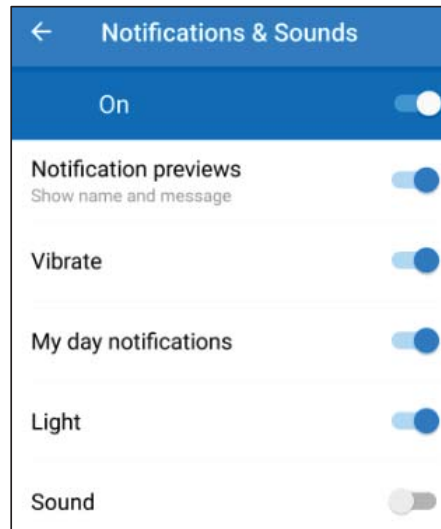


WhatsApp Messenger

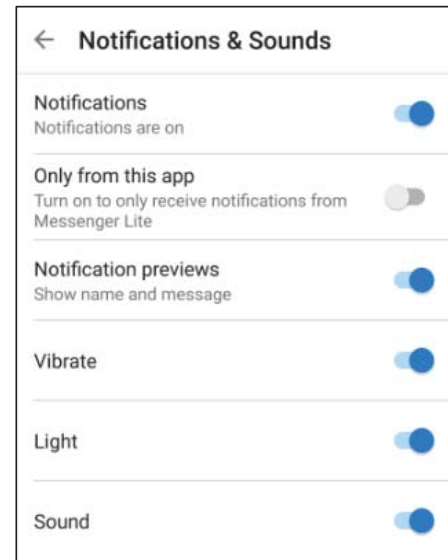


Instagram Direct

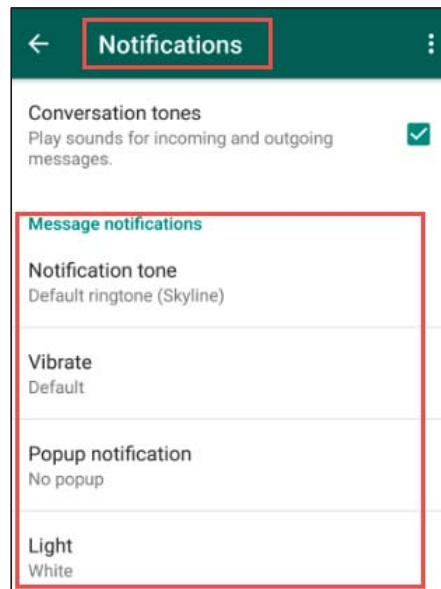
26 1(e) overriding at least one currently-enabled notification setting to prevent a
 27 notification pertaining to receipt of the new incoming message from being activated;
 28 and



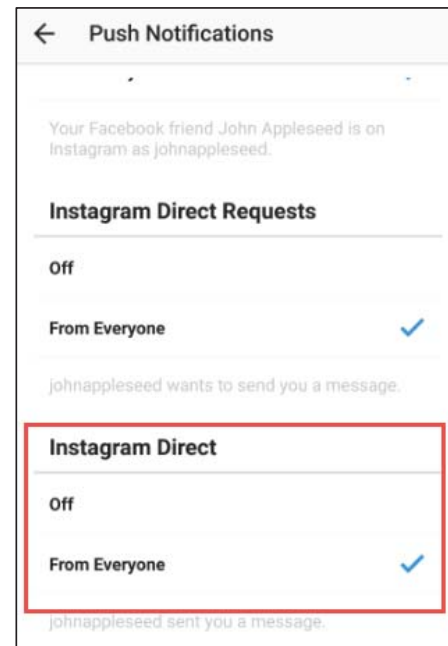
Facebook Messenger



Facebook Messenger Lite

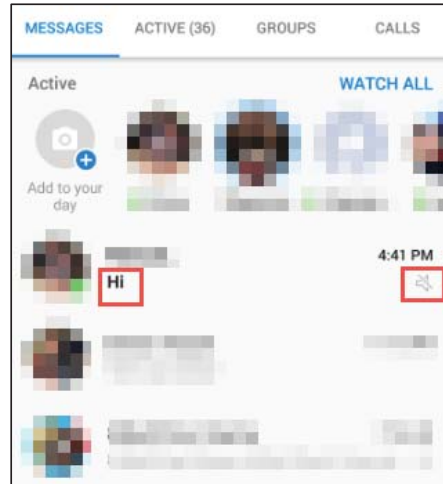


WhatsApp Messenger

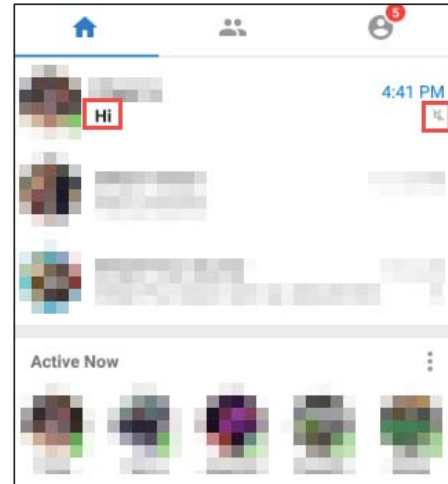


Instagram Direct

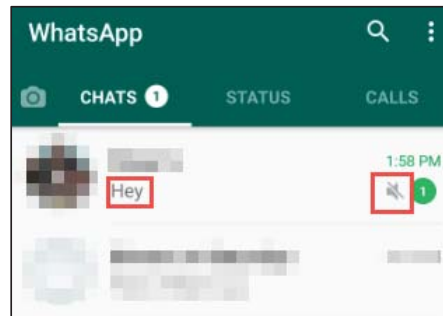
1 1(f) wherein the new incoming message thread flagged as silenced is
 2 displayed in the inbox in a different manner than any message thread not flagged as
 3 silenced.



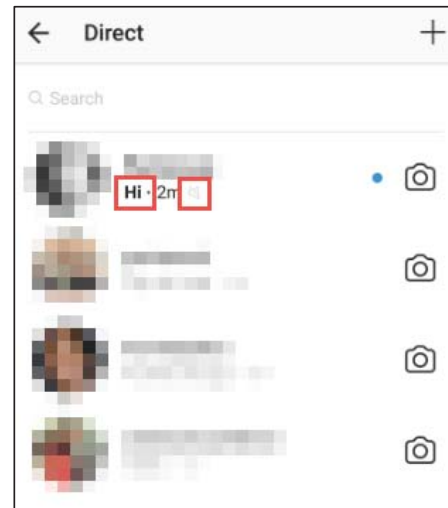
Facebook Messenger



Facebook Messenger Lite



WhatsApp Messenger



Instagram Direct

25 289. Additionally, Defendants have been, and currently are, active inducers
 26 of infringement of the '120 Patent under 35 U.S.C. § 271(b) and contributory
 27 infringers of the '120 Patent under 35 U.S.C. § 271(c).

28 290. Defendants knew of the '120 Patent, or should have known of the '120

1 Patent but were willfully blind to its existence. Upon information and belief,
2 Defendants have had actual knowledge of the '120 Patent since at least as early as
3 the filing and/or service of this Complaint.

4 291. Defendants have provided the '120 Accused Products to their
5 customers and, on information and belief, instructions to use the '120 Accused
6 Products in an infringing manner while being on notice of or willfully blind to the
7 '120 Patent and Defendants' infringement. Therefore, on information and belief,
8 Defendants knew or should have known of the '120 Patent and of their own
9 infringing acts, or deliberately took steps to avoid learning of those facts.

10 292. Defendants knowingly and intentionally encourage and aid at least its
11 end-user customers to directly infringe the '120 Patent.

12 293. Upon information and belief, Defendants provide the '120 Accused
13 Products to customers through various third-party application stores (e.g., the Apple
14 App Store) and instructions to end-user customers so that such customers will use
15 the '120 Accused Products in an infringing manner. For example, Defendants
16 provide instructions to end-user customers on how to set up, configure, and use
17 various features of the '120 Accused Products, as well as to mute notifications for
18 select conversation threads.³¹

19 294. Defendants' end-user customers directly infringe at least claims 1, 13,
20 and 24 of the '120 Patent by using the '120 Accused Products in their intended
21 manner to infringe. Defendants induce such infringement by providing the '120
22 Accused Products and instructions to enable and facilitate infringement, knowing of,
23 or being willfully blind to the existence of, the '120 Patent. Upon information and
24 belief, Defendants specifically intend that their actions will result in infringement of

25 ³¹ See <https://www.facebook.com/help/work-chat/iphone/447690225439543>;
26 <https://www.facebook.com/help/messenger-app/330627630326605?helpref=topq>;
27 <https://faq.whatsapp.com/en/wp/28060004/?category=5245251>;
28 <https://help.instagram.com/1637687493174595>.

1 at least claims 1, 13, and 24 of the '120 Patent, or subjectively believe that their
2 actions will result in infringement of the '120 Patent but took deliberate actions to
3 avoid learning of those facts, as set forth above.

4 295. Additionally, Defendants contributorily infringe at least claims 1, 13,
5 and 24 of the '120 Patent by providing the '120 Accused Products and/or software
6 components thereof, that embody a material part of the claimed inventions of the
7 '120 Patent, that are known by Defendants to be specially made or adapted for use
8 in an infringing manner, and are not staple articles with substantial non-infringing
9 uses. The '120 Accused Products are specially designed to infringe at least claims
10 1, 13, and 24 of the '120 Patent, and their accused components have no substantial
11 non-infringing uses. In particular, on information and belief, the software modules
12 and code that implement and perform the infringing functionalities identified above
13 are specially made and adapted to carry out said functionality and do not have any
14 substantial non-infringing uses.

15 296. Additional allegations regarding Defendants' knowledge of the '120
16 Patent and willful infringement will likely have further evidentiary support after a
17 reasonable opportunity for discovery.

18 297. Defendants' infringement of the '120 Patent was and continues to be
19 willful and deliberate, entitling BlackBerry to enhanced damages and attorneys'
20 fees.

21 298. Defendants' infringement of the '120 Patent is exceptional and entitles
22 BlackBerry to attorneys' fees and costs incurred in prosecuting this action under 35
23 U.S.C. § 285.

24 299. BlackBerry has been damaged by Defendants' infringement of the '120
25 Patent and will continue to be damaged unless Defendants are enjoined by this
26 Court. BlackBerry has suffered and continues to suffer irreparable injury for which
27 there is no adequate remedy at law. The balance of hardships favors BlackBerry,
28 and public interest is not disserved by an injunction.

1 300. BlackBerry is entitled to recover from Defendants all damages that
 2 BlackBerry has sustained as a result of Defendants' infringement of the '120 Patent,
 3 including without limitation lost profits and not less than a reasonable royalty.

4 **COUNT VIII: INFRINGEMENT OF U.S. PATENT NO. 8,296,351**

5 301. BlackBerry incorporates by reference and re-alleges all of the foregoing
 6 paragraphs of this Complaint as if fully set forth herein.

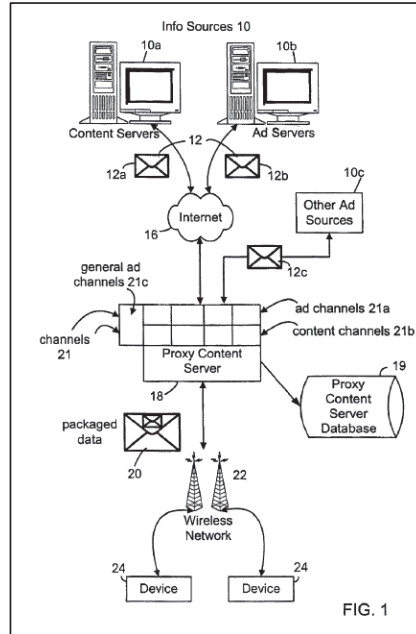
7 **The '351 Patent**

8 302. The '351 Patent discloses, among other things, a "system for pushing
 9 information to a mobile device" involving a "proxy content server," which "is
 10 coupled to [an] information source and [a] wireless network." '351 Patent at
 11 Abstract. The proxy content server "stores information received from the
 12 information source to one of a plurality of channels based on predefined information
 13 categories, and automatically transmits information from a selected channel over the
 14 wireless network to the mobile device." *Id.*

15 303. The '351 Patent teaches a proxy content server that provides targeted
 16 advertising information (*see, e.g., id.* at 4:28-46) and "aggregates existing
 17 information, such as Internet or Intranet content, from one or more Information
 18 sources, and pushes the information to a mobile device." *Id.* at 2:59-62. This
 19 configuration "provides a method of combining the information so that the mobile
 20 device user has a consistent and transparent experience of receiving both
 21 information content and advertising content." *Id.* at 2:63-66. The '351 Patent
 22 inventors recognized that providing targeted advertisements and content was
 23 important "to achieve a revenue source for the provider of the information so the
 24 mobile device user gets a reduce[d] or free information service." *Id.* at 3:16-19.

25 304. Fig. 1 of the '351 Patent shows an exemplary network architecture
 26 according to an embodiment of the Patent for such a push notification system to
 27 improve the delivery of advertising content to mobile users. Figure 1 illustrates "a
 28

1 plurality of Information Sources 10, a Proxy Content Server 18, a Proxy Content
 2 Server Database 19, and a plurality of mobile devices 24.” *Id.* at 2:21-23.



15
 16 305. The '351 Patent thus claims, *inter alia*, “[a] system for pushing
 17 information to a mobile device, comprising: a proxy content server that receives
 18 information over a computer network from an information source and stores the
 19 information to one of a plurality of channels based on pre-defined information
 20 categories, wherein the plurality of channels comprise memory locations included in
 21 at least one of the proxy content server or a proxy content server database; the proxy
 22 content server to receive a feedback signal over a wireless network that indicates a
 23 position of the mobile device, and to use the feedback signal to select a channel for
 24 transmission of the information from the selected channel over the wireless network
 25 to the mobile device, wherein the information comprises at least one of static
 26 advertising information, dynamic advertising information, default advertising
 27 information, or content information, and wherein a combination of the static
 28

1 advertising information with one of the dynamic or default advertising information
2 comprises an advertisement or an information bulletin.” *Id.* at Claim 1.

3 **The Inventions Claimed in the ’351 Patent Were Not**
4 **Well-Understood, Routine, or Conventional**

5 306. The use of a proxy content server to receive information over a
6 computer network from an information source and store the information to one of a
7 plurality of channels based on pre-defined information categories, wherein the
8 plurality of channels comprise memory locations included in at least one of the
9 proxy content server or a proxy content server database, and to receive a feedback
10 signal over a wireless network that indicates the position of the mobile device and to
11 use the feedback signal to select a channel for transmission of the information from
12 the selected channel over the wireless network to the mobile device, wherein the
13 information comprises at least one of static advertising information, dynamic
14 advertising information, default advertising information, or content information, and
15 wherein a combination of the static advertising information with one of the dynamic
16 or default advertising information comprises an advertisement or an information
17 bulletin was not common or conventional at the time of the ’351 Patent.

18 307. The inventors of the ’351 Patent recognized the need to transmit
19 targeted advertising, facilitated by a proxy content server, in order to deliver
20 relevant and timely advertising information to mobile users. As taught by the ’351
21 Patent, the “Proxy Content Server [] provides a method of combining the
22 information so that the mobile device user has a consistent and transparent
23 experience of receiving both information content and advertising content.” *Id.* at
24 2:63-66.

25 308. Given the state of the art at the time of the invention of the ’351 Patent,
26 the inventive concepts of the ’351 Patent were not conventional, well-understood, or
27 routine. The ’351 Patent discloses, among other things, an unconventional and
28 technological solution to an issue arising specifically in the context of wireless

1 communication devices, and the delivery of advertising content to such devices.
2 The solution implemented by the '351 Patent provides a specific and substantial
3 improvement over prior wireless communication systems used for this purpose,
4 resulting in an improved system for the delivery of relevant and timely advertising
5 information to mobile device users. The '351 Patent achieves this result by
6 introducing novel elements directed to improving the function and working of
7 wireless communication systems such as, *inter alia*, the claimed "proxy content
8 server" (all claims), positioned in a wireless network and configured according to
9 the claims, the capability of the proxy content server to "receive a feedback signal
10 over a wireless network that indicates a position of the mobile device, and to use the
11 feedback signal to select a channel for transmission of the information from the
12 selected channel over the wireless network to the mobile device," (claims 1-13) and
13 the capability to combine "static advertising information with one of [] dynamic or
14 default advertising information" to result in "an advertisement or an information
15 bulletin" (all claims).

16 309. Consistent with the problem addressed being rooted in wireless
17 communication to mobile devices, the '351 Patent's solutions are also rooted in the
18 same technology that cannot be performed with pen and paper or in the human
19 mind.

20 310. This technical context is reflected in the '351 Patent's claims. For
21 example, the claims recite a "proxy content server that receives information over
22 computer network from an information source" and which transmits information
23 over a "wireless network" to "mobile devices."

24 311. A person having ordinary skill in the art at the time of the inventions of
25 the '351 Patent would not have understood that the inventions could or would be
26 performed solely in the human mind or using pen and paper. Using pen and paper
27 would ignore the stated purpose of the '351 Patent and the problem it was
28 specifically designed to address, which arose in the context of needing an improved

1 system for delivering content, including advertising content, from an information
2 source to mobile users over a wireless network. Doing so would also run counter to
3 the inventors' detailed description of the inventions and the language of the claims
4 and be a practical impossibility.

5 **'351 Patent Allegations**

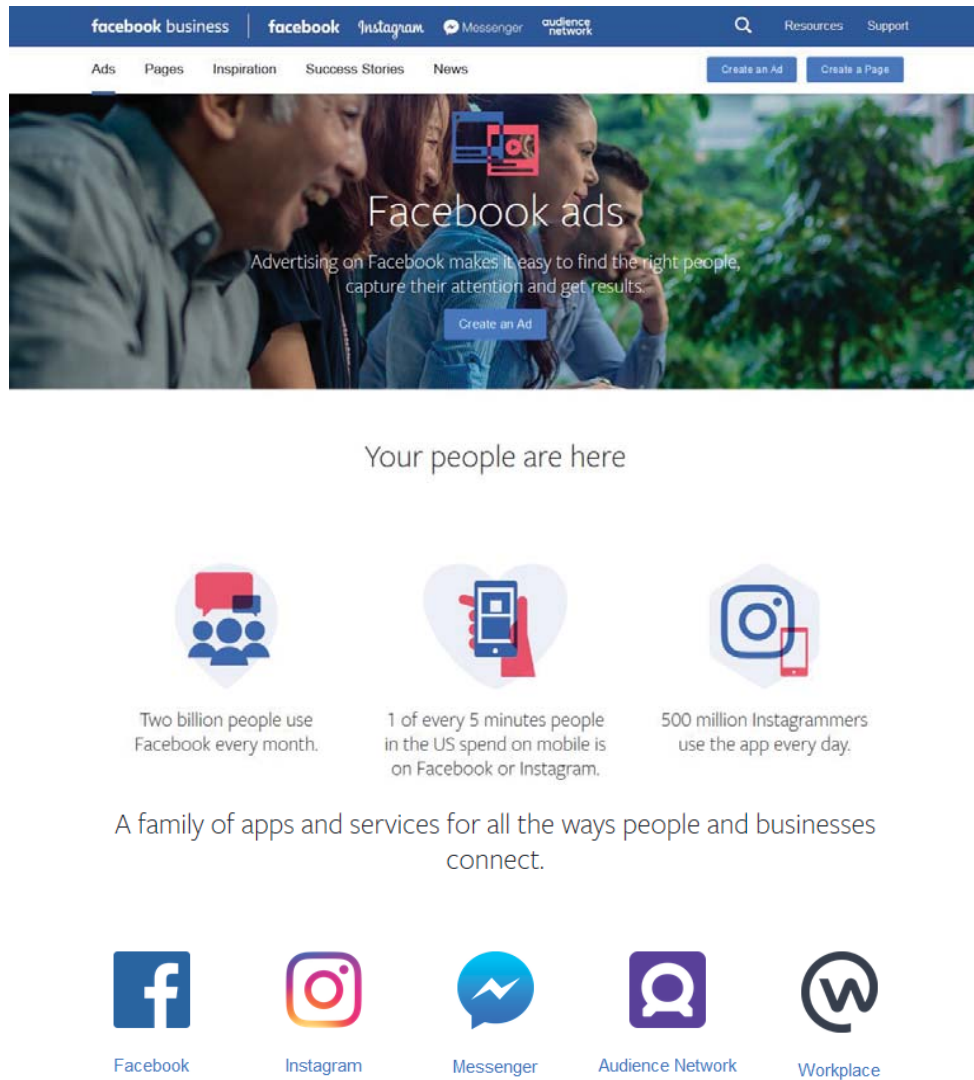
6 312. Facebook and Instagram have infringed and are infringing, either
7 literally or under the doctrine of equivalents, the '351 Patent in violation of 35
8 U.S.C. § 271 *et seq.*, directly and/or indirectly, by making, using, selling, offering
9 for sale, and/or importing into the United States without authority or license, the
10 Facebook advertising platform, which transmits targeted advertisements to users of
11 the Facebook, Facebook Messenger, and Instagram applications as well as users in
12 the Facebook Audience Network, and associated backend servers and systems
13 (hereinafter "the '351 Accused Products") that infringe at least claims 1 and 14 of
14 the '351 Patent. The '351 Accused Products are a non-limiting example that was
15 identified based on publicly available information, and BlackBerry reserves the right
16 to identify additional infringing activities, products and services, including, for
17 example, on the basis of information obtained during discovery.

18 313. On information and belief after reasonable investigation, the '351
19 Accused Products include a proxy content server that receives information from an
20 information source, stores the information in one of a plurality of channels, receives
21 a feedback signal over a wireless network that indicates a position of a mobile
22 device, uses the feedback signal to select a channel for transmission of the
23 information over the wireless network to the mobile device, wherein the information
24 comprises at least one of static advertising information, dynamic advertising
25 information, default advertising information, or content information, and wherein a
26 combination of the static advertising information with one of the dynamic or default
27 advertising information comprises an advertisement or an information bulletin.
28

1 314. As just one non-limiting example, set forth below (with claim language
2 in italics) is a description of infringement of exemplary claim 1 of the '351 Patent in
3 connection with the Facebook advertising platform utilized by both Facebook and
4 Instagram. This description is based on publicly available information. BlackBerry
5 reserves the right to modify this description, including, for example, on the basis of
6 information about the '351 Accused Products that it obtains during discovery.

7 *1(a) A system for pushing information to a mobile device, comprising:*

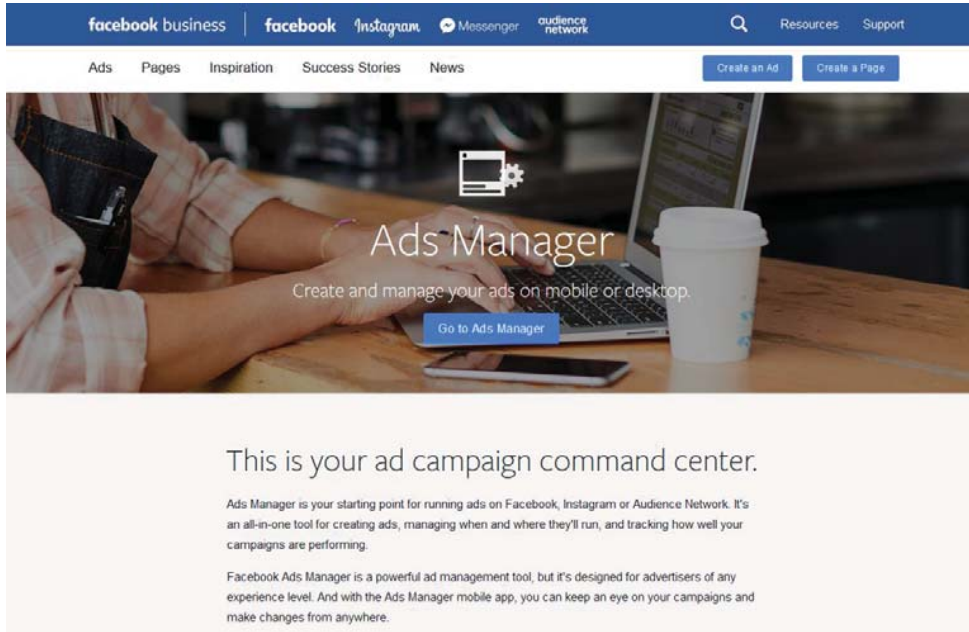
8 Facebook and Instagram make and/or use the Facebook advertising platform
9 and associated backend servers and systems. Regardless of whether the preamble of
10 claim 1 adds any substantive limitation to the claim, the claim language is met by
11 the '351 Accused Products, as the '351 Accused Products comprise a system for
12 pushing information to mobile devices, including the mobile devices of Facebook,
13 Facebook Messenger, and Instagram users, as well as users in the Facebook
14 Audience Network.



<https://www.facebook.com/business/products/ads;>

1(b) a proxy content server that receives information over a computer network from an information source and stores the information to one of a plurality of channels based on pre-defined information categories, wherein the plurality of channels comprise memory locations included in at least one of the proxy content server or a proxy content server database;

On information and belief, Facebook's advertising platform includes tools such as Facebook Ads Manager used by information sources such as advertisers or a Facebook advertisement intake server to send information over the Internet or Intranet to a Facebook proxy content server that stores the information to one of a plurality of channels based on pre-defined information categories.



<https://www.facebook.com/business/learn/facebook-ads-reporting-ads-manager;>

1. Create a Business Page & Profile

You must have a **Facebook Page** to run ads and create a free **Business Profile** on Instagram. If you don't have one yet, **create a Page**.

2. Set Up Ad

Select your ad objective, target audience and ad format within **Ads Manager**.

<https://business.instagram.com/advertising/#setup;>

Ad Name [Advanced Options](#) [Switch to Quick Creation](#)

Create Ad [Use Existing Post](#)

Identity

Facebook Page
Your business is represented in ads by its Facebook Page or an Instagram account.

Test Space [+](#)

Instagram Account [i](#)
The selected Page has no Instagram account connected. Your ad will use the Page name and profile picture. Manage connections in Page settings.

[Use the selected Facebook Page](#) OR [Add an Account](#)

Format
Choose how you'd like your ad to look.

Carousel
Create an ad with 2 or more scrollable images or videos

Single Image
Create up to 6 ads with one image each at no extra charge

Single Video
Create an ad with one video

Slideshow
Create a looping video ad with up to 10 images

Collection
Feature a collection of items that open into a fullscreen mobile experience. [Learn more.](#)

☐ **Add a Fullscreen Experience**
Add a fullscreen landing page that opens instantly when someone interacts with your ad on a mobile device. Use Canvas to feature images, videos, products and call-to-action buttons that link to your app or website. [Learn more.](#)

Your Ad May Not Be Approved
You can't run an ad that is incomplete or used for testing ads. You can read our [Advertising Policies](#) for the full list of guidelines.

<https://www.facebook.com/ads/manage/powereditor/creation?;>

Facebook Ads Manager

We are removing some metrics that are redundant or out of date starting in July of 2018. [Learn more.](#)

Search [Filters](#) [+](#) Add filters to narrow the data you are seeing. This month: Mar 1, 2018 - Mar 21, 2018

Account Overview **Campaigns** Ad Sets Ads

[+ Create](#) [Duplicate](#) [Edit](#) [Refresh](#) [Delete](#) [Create Rule](#) Columns: Performance Breakdown Export

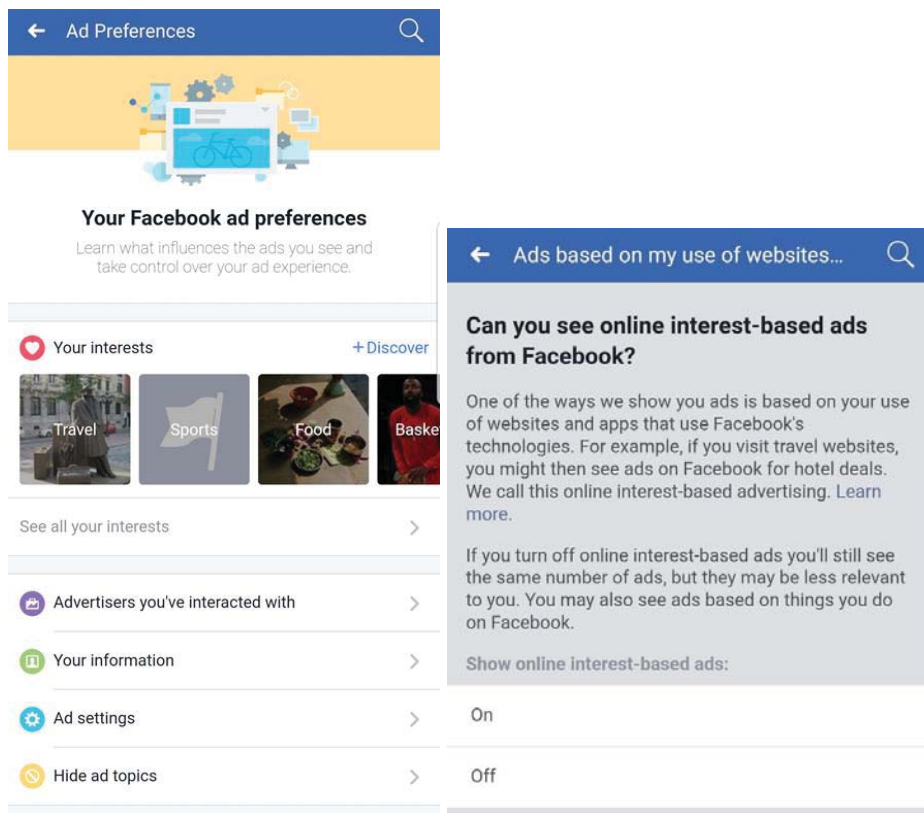
	Campaign Name	Delivery	Results	Reach	Impressions	Cost per Result	Amount Spent	Ends
☒	Traffic	Pending Review	Link Click			Per Link Click	\$0.00	Ongoing
Results from 1 campaign			Link Click	People	Total	Per Link Click	Total Spent	

<https://www.facebook.com/ads/manage/powereditor/manage;> see also

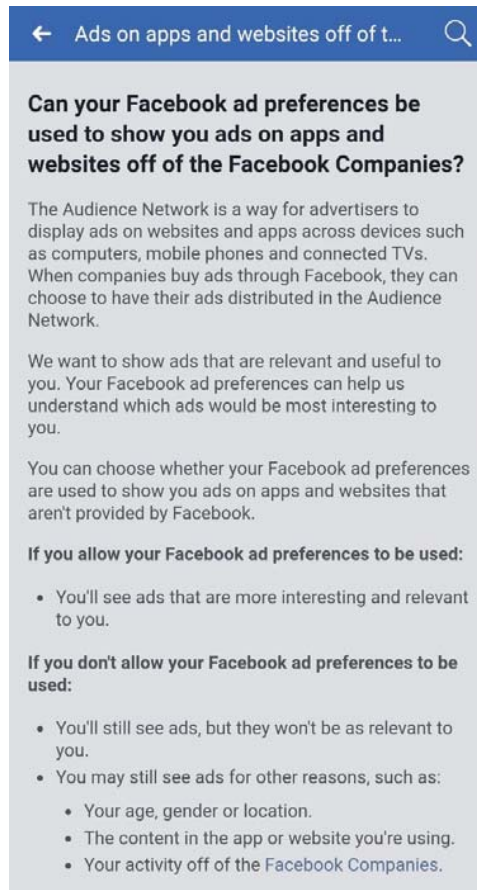
https://www.facebook.com/business/learn/facebook-ads-basics?ref=fbb_bluebar#;

1 https://www.facebook.com/business/help/1361486070635113?helpref=page_content
 2 t; <https://www.facebook.com/business/help/1634705703469129>.

3 On information and belief, the plurality of channels based on pre-defined
 4 information categories include one or more content categories of interest selected by
 5 Facebook users, categories developed by Facebook corresponding to interests of
 6 users in the Facebook Audience Network, the Facebook users' use of Instagram
 7 and/or Messenger, and/or demographics such as the age, gender, or location of
 8 users.



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On information and belief, the plurality of channels comprise memory locations included in at least one of the proxy content server or a proxy content server database. For example, Facebook's Ads Manager allows advertisers to create and save advertisements according to one or more demographics (e.g., age, gender, and location) and user interests (e.g., Food, Sports, Travel, and Basketball), as well as the specific application through which the advertisement will be distributed (e.g., Facebook, Instagram, Audience Network, and Messenger). On information and belief, such advertising information is stored at the Facebook proxy content server or proxy content server database based on the foregoing criteria.

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Audience
Define who you want to see your ads. [Learn more.](#)

Create New Use a Saved Audience ▼

Custom Audiences ⓘ

Exclude | Create New ▼

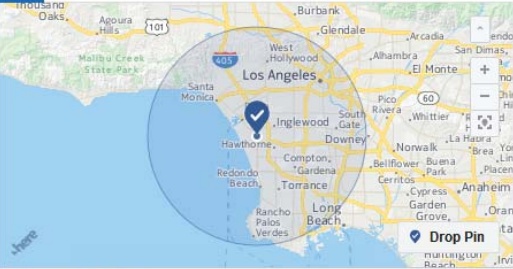
Locations ⓘ **People traveling in this location ▼**

United States

📍 LAX - Los Angeles International Airport + 15mi ▼

📍 Include ▼ | **Browse**

📘 Your audience location has been changed from United States to LAX - Los Angeles International Airport. [Undo Change](#)



Add Locations in Bulk

Age ⓘ 18 ▼ - 30 ▼

Gender ⓘ **All** Men Women

Languages ⓘ **French (All)** [×](#)

Detailed Targeting ⓘ **INCLUDE** people who match at least ONE of the following ⓘ

Interests > Additional Interests

Food

Sports

Travel

Interests > Sports and outdoors > Sports

Basketball

[Add demographics, interests or behaviors](#) | [Suggestions](#) | [Browse](#)

[Exclude People or Narrow Audience](#)

Asset Customization ⓘ

Select all placements that support asset customization

Platforms

▼ Facebook	-
Feeds	☒
Instant Articles	☒
In-Stream Videos	☒
Right Column	
Suggested Videos	☒
Marketplace	
▼ Instagram	-
Feed	☒
Stories	☐
▼ Audience Network	-
Native, Banner and Interstitial	☒
In-Stream Videos	☒
Rewarded Videos	
▼ Messenger	-
Home	☒
Sponsored Messages	

<https://www.facebook.com/ads/manage/powereditor/>.

1(c) the proxy content server to receive a feedback signal over a wireless network that indicates a position of the mobile device, and to use the feedback signal to select a channel for transmission of the information from the selected channel over the wireless network to the mobile device,

Advertisements through the Facebook advertising platform can be designed to reach a specified audience. When created, these advertisements can be directed towards audiences of a particular demographic, audiences in a particular geographic region, and audiences with a particular interest. For example, the Facebook advertising platform sends targeted advertisements based on user location such that, on information and belief, the Facebook proxy content server sends advertising

information to users based on location of the user as indicated by a feedback signal sent from the user's device over a wireless network to the Facebook proxy content server. On information and belief, the Facebook proxy content server selects the channel for transmission of information to the mobile device using the feedback signal as well as additional criteria, including the user demographics, and/or the application being used by the mobile device.

Reach people in the areas where you do business



Location targeting helps you find people where you do business, helping you create ads that are relevant to people based on their location.

You can already choose from areas near you, including country, state or ZIP code, but we now have expanded features that will give you even more ways to reach people in specific areas.

Create Ad

<https://www.facebook.com/business/a/location-targeting;>

Reach people who matter most to you.

Make your ads reach the exact audience you want using our precise targeting options.

Location

Target people based in specific locations like states, provinces, cities or countries.

Interests

Reach people based on interests like apps they use, ads they click and accounts they follow.

Custom Audiences

Run ads to customers you already know based on their email addresses or phone numbers.

Demographics

Narrow your audience based on information like age, gender and languages.

Behaviors

Define your audience by activities they do on and off of Instagram and Facebook.

Lookalike Audiences

Find new people who are similar to your existing customers.



[https://business.instagram.com/advertising/;](https://business.instagram.com/advertising/)

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Audience
Define who you want to see your ads. [Learn more.](#)

Create New Use a Saved Audience ▼

Custom Audiences ⓘ

Exclude | Create New ▼

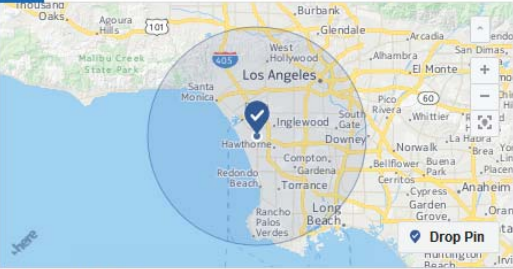
Locations ⓘ **People traveling in this location ▼**

United States

📍 LAX - Los Angeles International Airport + 15mi ▼

📍 Include ▼ | **Browse**

📘 Your audience location has been changed from United States to LAX - Los Angeles International Airport. [Undo Change](#)



Add Locations in Bulk

Age ⓘ 18 ▼ - 30 ▼

Gender ⓘ **All** Men Women

Languages ⓘ **French (All)** [×](#)

Detailed Targeting ⓘ **INCLUDE** people who match at least ONE of the following ⓘ

Interests > Additional Interests

Food

Sports

Travel

Interests > Sports and outdoors > Sports

Basketball

[Add demographics, interests or behaviors](#) | [Suggestions](#) | [Browse](#)

[Exclude People or Narrow Audience](#)

Asset Customization ⓘ

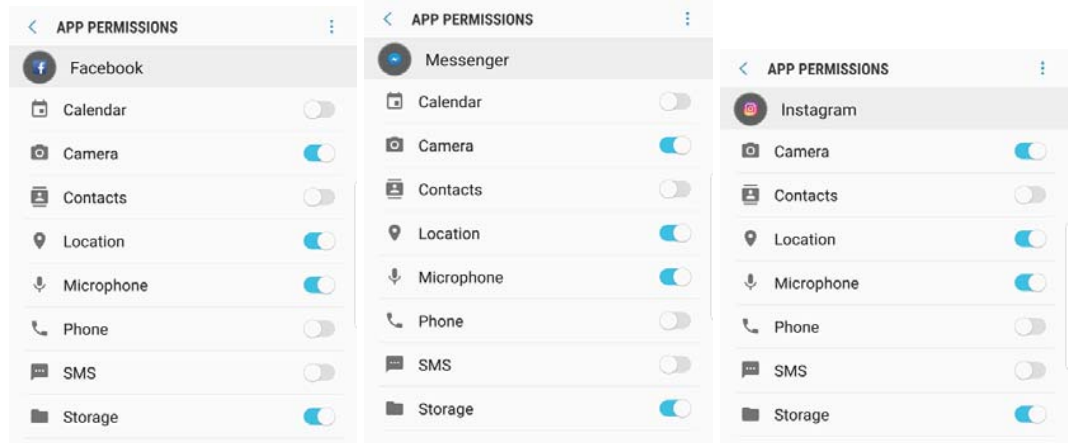
Select all placements that support asset customization

Platforms

▼ Facebook	-
Feeds	☒
Instant Articles	☒
In-Stream Videos	☒
Right Column	
Suggested Videos	☒
Marketplace	
▼ Instagram	-
Feed	☒
Stories	☐
▼ Audience Network	-
Native, Banner and Interstitial	☒
In-Stream Videos	☒
Rewarded Videos	
▼ Messenger	-
Home	☒
Sponsored Messages	

<https://www.facebook.com/ads/manage/powereditor/>;

Additionally, on information and belief, each of the Facebook, Facebook Messenger, and Instagram applications enable location tracking of a user's mobile device by default.



1(d) wherein the information comprises at least one of static advertising information, dynamic advertising information, default advertising information, or content information, and wherein a combination of the static advertising information with one of the dynamic or default advertising information comprises an advertisement or an information bulletin.

On information and belief, advertisements seen on at least Facebook, Facebook Messenger, and Instagram include static advertising information that relates to an identity of the advertiser, such as the name and logo of the advertiser (e.g., the advertiser's "Page Name" and "Page Profile Picture"), and that is combined with dynamic and default advertising information that relates to a specific advertisement that is or is not time-sensitive, such as an advertisement image, description, "call to action," item and associated link(s).

Image

Facebook Feed



Design Recommendations

- File type: jpg or png¹
- Image ratio: 9:16 to 16:9¹
- Recommended resolution: Upload the highest resolution image available.¹
- Images that consist of more than 20% text may experience reduced delivery. [Learn more about text in images.](#)
- Text: 125 characters¹

With Link¹

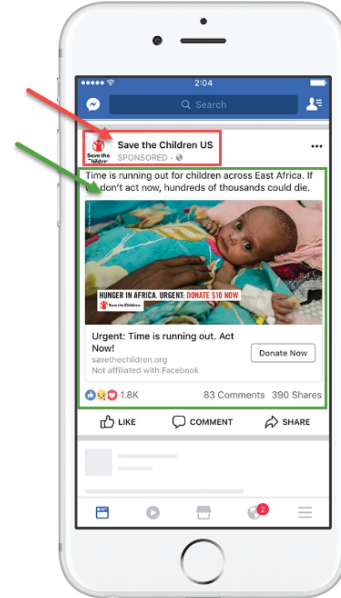
- Images cropped to 1.91:1¹
- Recommended resolution: at least 1,200 x 628px¹
- Headline: 25 characters¹
- Link Description: 30 characters¹

Panoramas or 360 Photos

Panoramas or 360 photos may appear on Facebook as an interactive experience. Facebook recognizes and processes these photos by looking for camera-specific metadata found in photos taken using 360-ready devices. [Learn more](#)

Choose your ad placement¹

Facebook Feed



<https://www.facebook.com/business/ads-guide/image/facebook-feed>

Image

Messenger Home



Design Recommendations

Selecting the Messenger Home placement will allow members of your audience to see your ad within the Messenger app home screen.

- File type: jpg or png
- Image ratio: 9:16 to 16:9
- Recommended resolution: Upload the highest resolution image available that meets ratio requirements.¹
- Images that consist of more than 20% text may experience reduced delivery. [Learn more about text in images.](#)
- Text: 125 characters¹

With Link¹

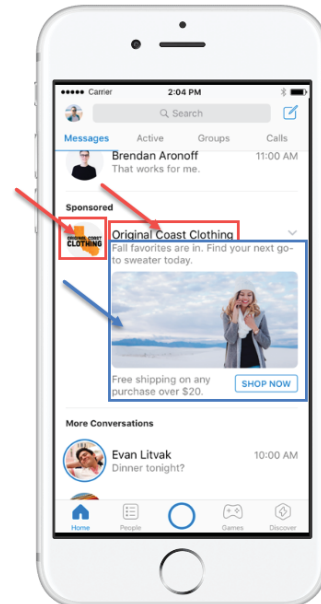
- Images cropped to 1.91:1
- Recommended resolution: at least 1,200 x 628px¹
- Headline: 25 characters¹
- Link Description (optional): 30 characters¹

Technical Requirements

- Minimum Image Width in Pixels : 254
- Minimum Image Height in Pixels : 133

Choose your ad placement¹

Messenger Home



<https://www.facebook.com/business/ads-guide/image/messenger-home>

Image

Instagram Stories



Design Recommendations

These full screen vertical ads appear between Instagram user stories. Photo stories are visible for 5 seconds or until the user swipes out of the story.

- Image ratio: 9:16
- Recommended resolution: at least 1,080 x 1,920px¹
- Images that consist of more than 20% text may experience reduced delivery. [Learn more about text in images.](#)

Technical Requirements

- Minimum Image Width in Pixels : 500
- Aspect Ratio Tolerance : 1%
- Maximum Image Ratio : 9:16

Supported Objectives¹

Reach

Call to Action¹

Apply Now

Choose your ad placement¹

Instagram Stories



<https://www.facebook.com/business/ads-guide/image/instagram-story>

315. Upon information and belief, Facebook and Instagram knew of the '351 Patent, or should have known of the '351 Patent but were willfully blind to its existence. Upon information and belief, Facebook and Instagram have had actual knowledge of the '351 Patent since at least as early as the filing and/or service of this Complaint.

316. Facebook and Instagram have provided the '351 Accused Products to their customers and, on information and belief, instructions to use the '351 Accused Products in an infringing manner while being on notice of or willfully blind to the '351 Patent and Facebook's and Instagram's infringement. Therefore, on information and belief, Facebook and Instagram knew or should have known of the '351 Patent and of their own infringing acts, or deliberately took steps to avoid learning of those facts.

1 317. Additional allegations regarding Facebook's and Instagram's
2 knowledge of the '351 Patent and willful infringement will likely have further
3 evidentiary support after a reasonable opportunity for discovery.

4 318. Facebook's and Instagram's infringement of the '351 Patent was and
5 continues to be willful and deliberate, entitling BlackBerry to enhanced damages
6 and attorneys' fees.

7 319. Facebook's and Instagram's infringement of the '351 Patent is
8 exceptional and entitles BlackBerry to attorneys' fees and costs incurred in
9 prosecuting this action under 35 U.S.C. § 285.

10 320. BlackBerry has been damaged by Facebook's and Instagram's
11 infringement of the '351 Patent and will continue to be damaged unless Facebook
12 and Instagram are enjoined by this Court. BlackBerry has suffered and continues to
13 suffer irreparable injury for which there is no adequate remedy at law. The balance
14 of hardships favors BlackBerry, and public interest is not disserved by an injunction.

15 321. BlackBerry is entitled to recover from Facebook and Instagram all
16 damages that BlackBerry has sustained as a result of Facebook's and Instagram's
17 infringement of the '351 Patent, including without limitation lost profits and not less
18 than a reasonable royalty.

19 **COUNT IX: INFRINGEMENT OF U.S. PATENT NO. 8,676,929**

20 322. BlackBerry incorporates by reference and re-alleges all of the foregoing
21 paragraphs of this Complaint as if fully set forth herein.

22 **The '929 Patent**

23 323. The '929 Patent issued from a continuation application stemming
24 originally from the application giving rise to the '351 Patent. As such, the '929
25 Patent contains the same disclosure and specification as the '351 Patent.

26 324. The '929 Patent thus claims, *inter alia*, "[a] server, comprising: a
27 database organized into a plurality of memory location channels, each of the
28 memory location channels storing information of a same category as a pre-defined

1 category of each of the respective memory location channels, wherein upon
2 detection of a triggering event comprising a time triggering event, determining the
3 information relevant to the detected triggering event from among information stored
4 in one of the plurality of memory location channels of the database, when the
5 information relevant to the detected triggering event comprises content information,
6 inserting into the content information a meta tag for one or more advertisements to
7 be displayed with the content information that includes the meta tag to a mobile
8 device, wherein the meta tag identifies the one or more advertisements and
9 advertisement display requirements, and wherein the one or more advertisements are
10 selected based on the detected triggering event.” ’929 Patent at claim 1.

11 **The Inventions Claimed in the ’929 Patent Were Not**
12 **Well-Understood, Routine, or Conventional**

13 325. The use of a server to detect a time triggering event, determine
14 information relevant to the detected time triggering event, and inserting a meta tag
15 into content information corresponding to the detected time triggering event that
16 identifies one or more advertisements or advertisement display requirements
17 selected based on the detected triggering event was not common or conventional at
18 the time of the ’929 Patent.

19 326. The inventors of the ’929 Patent recognized that when transmitting
20 content triggered by, for example, a time triggering event, the insertion of a meta tag
21 into content information could further facilitate the delivery of relevant and timely
22 advertising information to mobile users. As taught by the ’929 Patent, the disclosed
23 invention “provides a method of combining the information so that the mobile
24 device user has a consistent and transparent experience of receiving both
25 information content and advertising content.” ’929 Patent at 3:1-4.

26 327. Given the state of the art at the time of the invention of the ’929 Patent,
27 the inventive concepts of the ’929 Patent were not conventional, well-understood, or
28 routine. The ’929 Patent discloses, among other things, an unconventional and

1 technological solution to an issue arising specifically in the context of mobile
2 communication devices, and the delivery of advertising content to such devices.
3 The solution implemented by the '929 Patent provides a specific and substantial
4 improvement over prior communication systems used for this purpose, resulting in
5 an improved system for the delivery of relevant and timely content and advertising
6 information to mobile device users. The '929 Patent achieves this result by
7 introducing novel elements directed to improving the function and working of
8 mobile communication systems such as, *inter alia*, the claimed "a server" (all
9 claims), positioned in a wireless network and configured according to the claims, the
10 capability of the claimed server to detect a "time triggering event" and determine
11 information relevant to the triggering event (all claims), and the capability of
12 inserting into content information corresponding to the time triggering event a meta
13 tag that identifies one or more advertisements and advertisement display
14 requirements that are selected based on the time triggering event (all claims).

15 328. Consistent with the problem addressed being rooted in wireless
16 communication to mobile devices, the '929 Patent's solutions are also rooted in the
17 same technology that cannot be performed with pen and paper or in the human
18 mind.

19 329. This technical context is reflected in the '929 Patent's claims. For
20 example, the claims recite "a server" that detects a "time triggering event,"
21 determines information relevant to the detected triggering event, and which
22 transmits information over a "wireless network" to a "mobile device" with a "meta
23 tag" that identifies the one or more advertisements and advertisement display
24 requirements.

25 330. A person having ordinary skill in the art at the time of the inventions of
26 the '929 Patent would not have understood that the inventions could or would be
27 performed solely in the human mind or using pen and paper. Using pen and paper
28 would ignore the stated purpose of the '929 Patent and the problem it was

1 specifically designed to address, which arose in the context of needing an improved
2 system for delivering content, including advertising content, from an information
3 source to mobile users over a wireless network. Doing so would also run counter to
4 the inventors' detailed description of the inventions and the language of the claims
5 and be a practical impossibility.

6 **'929 Patent Allegations**

7 331. Facebook has infringed and is infringing, either literally or under the
8 doctrine of equivalents, the '929 Patent in violation of 35 U.S.C. § 271 *et seq.*,
9 directly and/or indirectly, by making, using, selling, offering for sale, and/or
10 importing into the United States without authority or license, the Facebook
11 advertising platform, which transmits targeted advertisements to users of the
12 Facebook (including users of the Facebook Watch and Facebook Live features),
13 Facebook Messenger, and Instagram applications as well as users in the Facebook
14 Audience Network, and associated backend servers and systems (hereinafter "the
15 '929 Accused Products") that infringe at least claims 1, 2, 9 and 10 of the '929
16 Patent. The '929 Accused Products are a non-limiting example that were identified
17 based on publicly available information, and BlackBerry reserves the right to
18 identify additional infringing activities, products and services, including, for
19 example, on the basis of information obtained during discovery.

20 332. On information and belief after reasonable investigation, the '929
21 Accused Products include a server capable of detecting a time triggering event and,
22 based on the time triggering event, sending to a mobile device advertisements and
23 content information with a "meta tag" to identify one or more advertisements and
24 advertisement display requirements.

25 333. As just one non-limiting example, set forth below (with claim language
26 in italics) is a description of infringement of exemplary claims 9 and 10 of the '929
27 Patent in connection with the Facebook advertising platform and associated backend
28 servers and systems. This description is based on publicly available information.

1 BlackBerry reserves the right to modify this description, including, for example, on
2 the basis of information about the '929 Accused Products that it obtains during
3 discovery.

4 *9(a) A server, comprising:*

5 Facebook makes and/or uses the Facebook advertising platform, Facebook
6 application, and Facebook Watch and Facebook Live features, and associated
7 backend servers and systems. Regardless of whether the preamble of claim 9 adds
8 any substantive limitation to the claim, the claim language is met by the '929
9 Accused Products, as the '929 Accused Products include a server comprising the
10 elements further described below for the remaining claim limitations.

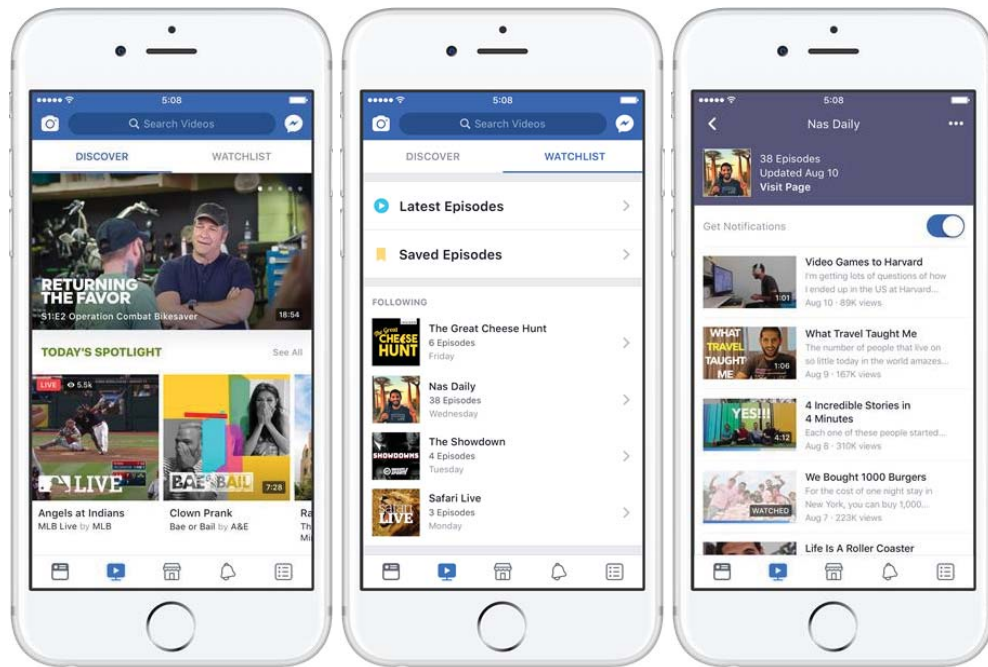
11 *9(b) a database organized into a plurality of memory location channels, each*
12 *of the memory location channels storing information of a same category as a pre-*
13 *defined category of each of the respective memory location channels,*

14 The Facebook application includes a feature called "Facebook Watch" that
15 allows users to watch pre-recorded and live shows, events, and other video content,
16 as well as "Facebook Live" that allows users to watch live video broadcasts from
17 friends, celebrities, and other publishers. On information and belief, the Facebook
18 Watch and Live features are enabled by a database on the Facebook server
19 comprising a plurality of memory locations, each channel corresponding to a pre-
20 defined category of information that users may wish to access.

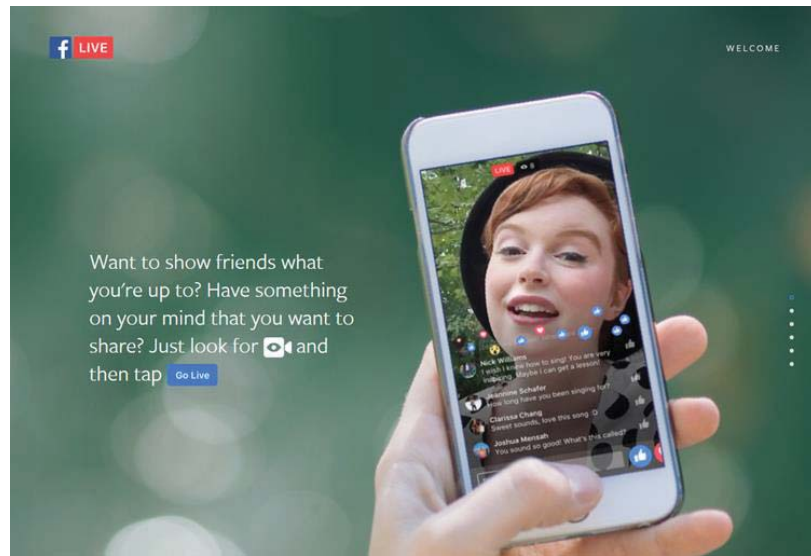
21 Additionally, the Facebook advertising platform includes tools such as
22 Facebook Ads Manager used by advertisers to send information over the Internet to
23 a Facebook server that, on information and belief, stores the information to one of a
24 plurality of memory location channels of the database based on pre-defined
25 categories. On information and belief, the channels may include one or more
26 content categories of interest selected by Facebook users, categories developed by
27 Facebook corresponding to interests of users in the Facebook Audience Network,
28 and/or demographics such as the age, gender, or location of users. For example,

Facebook's Ads Manager allows advertisers to create and save advertisements according to one or more demographics (e.g., age, gender, and location) and user interests (e.g., Food, Sports, Travel, and Basketball). On information and belief, such advertising information is stored in the database based on the foregoing criteria.

Facebook Watch & Facebook Live



<https://newsroom.fb.com/news/2017/08/introducing-watch-a-new-platform-for-shows-on-facebook/>; see also <https://www.facebook.com/help/221747465020503>;



<https://live.fb.com/golive/#section1;>

What is Facebook Live?

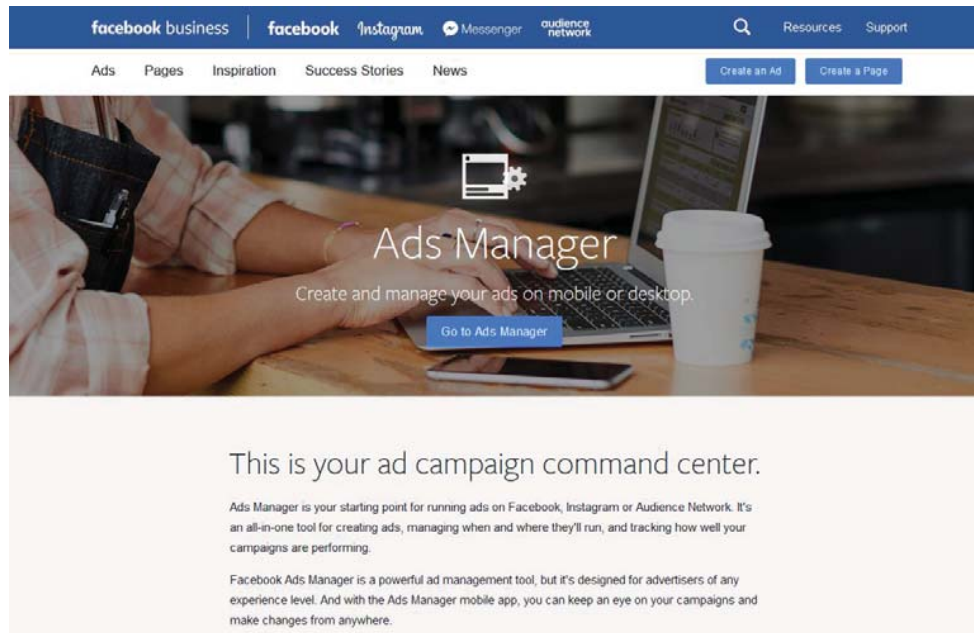
Live lets people, public figures and Pages share live video with their followers and friends on Facebook.

Is Live available to everyone on Facebook?

Live is available to all Pages and profiles on Facebook for iOS, Android, and the Facebook Creator app

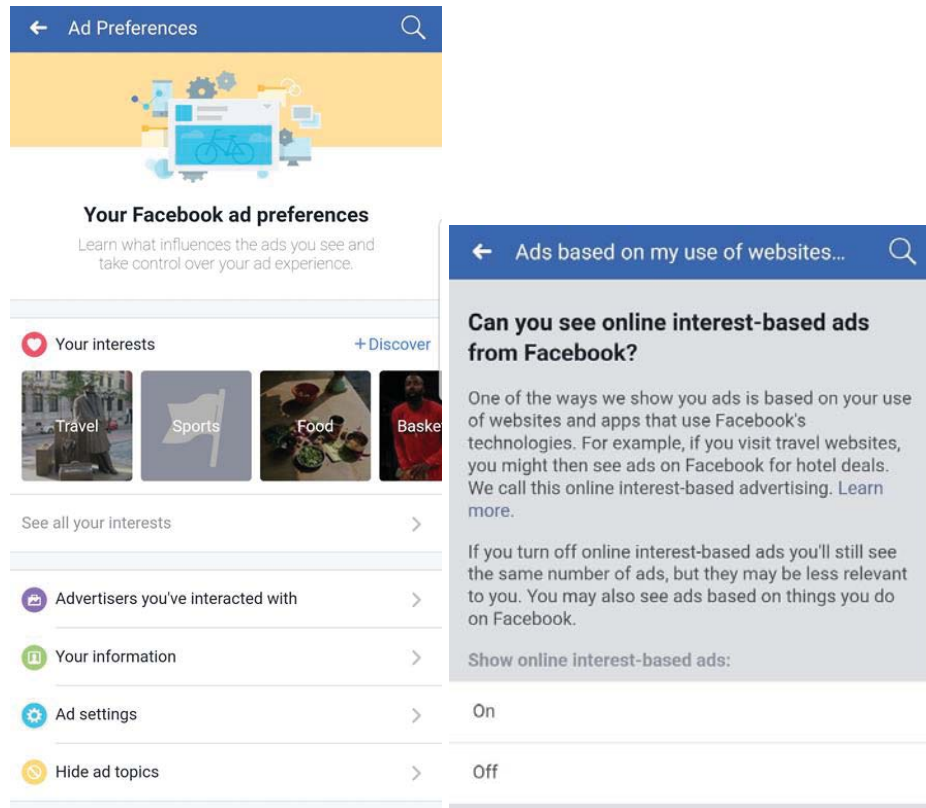
[https://live.fb.com/about/;](https://live.fb.com/about/)

Facebook Advertising Platform



<https://www.facebook.com/business/learn/facebook-ads-reporting-ads-manager>; see also https://www.facebook.com/business/learn/facebook-ads-basics?ref=fbb_bluebar#; https://www.facebook.com/business/help/1361486070635113?helpref=page_content; <https://www.facebook.com/business/help/1634705703469129>.

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Audience
Define who you want to see your ads. [Learn more.](#)

Create New Use a Saved Audience ▼

Custom Audiences ⓘ

Exclude | Create New ▼

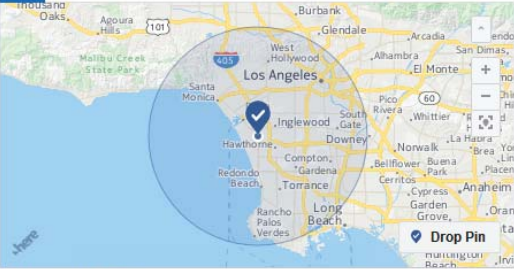
Locations ⓘ **People traveling in this location ▼**

United States

LAX - Los Angeles International Airport + 15mi ▼

Include ▼ | Type to add more locations Browse

Your audience location has been changed from United States to LAX - Los Angeles International Airport. Undo Change



Add Locations in Bulk

Age ⓘ **18 ▼** - **30 ▼**

Gender ⓘ **All** Men Women

Languages ⓘ **French (All)** ×

Detailed Targeting ⓘ INCLUDE people who match at least ONE of the following ⓘ

Interests > Additional Interests

Food

Sports

Travel

Interests > Sports and outdoors > Sports

Basketball

Suggestions Browse

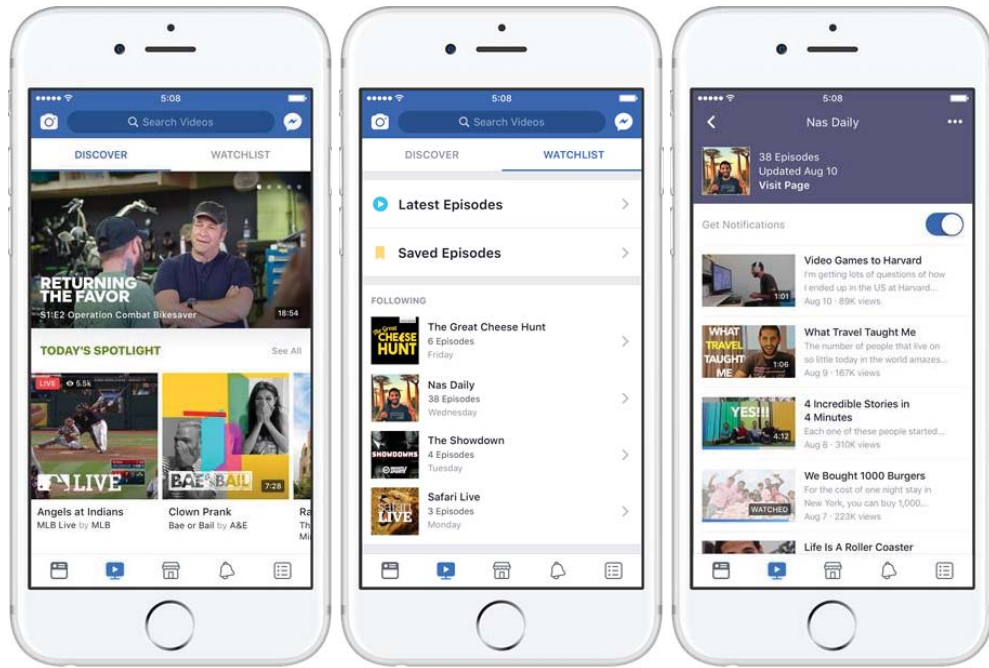
Exclude People or Narrow Audience

<https://www.facebook.com/ads/manage/powereditor/>.

1 9(c) wherein upon detection of a triggering event comprising a time
2 triggering event, determining the information relevant to the detected triggering
3 event from among information stored in one of the plurality of memory location
4 channels of the database,

5 The Facebook Watch and Live features allow users to subscribe to or
6 “follow” content streams and to receive notifications/live updates. On information
7 and belief, these notifications correspond to a “time triggering event” in some
8 cases—*e.g.*, a predetermined start time for a Live Event, or a predetermined release
9 time for a prerecorded show or event, for example. Additionally, Facebook’s
10 advertising platform allows advertisers to run advertisements based on a specified
11 time schedule. On information and belief, the advertiser-specified times for
12 publishing ads corresponds to a “time triggering event,” for example. On
13 information and belief, upon detection of the time triggering event, the Facebook
14 server determines the information relevant to the detected triggering event from
15 among information stored in the plurality of memory location channels in the
16 database.

17 **Facebook Watch & Facebook Live**
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<https://newsroom.fb.com/news/2017/08/introducing-watch-a-new-platform-for-shows-on-facebook/>; see also <https://www.facebook.com/help/221747465020503>;



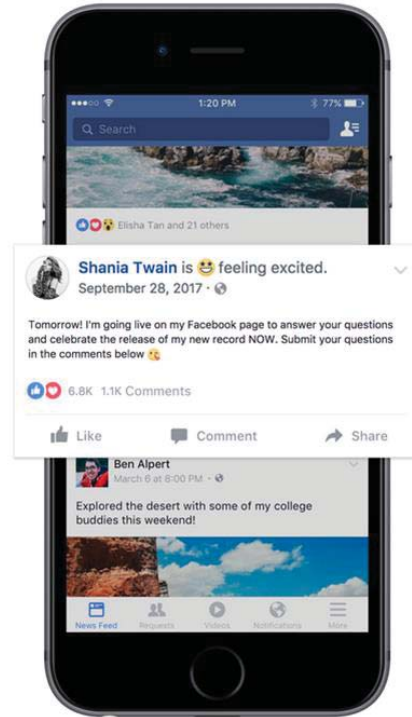
Connect—instantly

Live lets you connect with the people who care most. Your followers can receive notifications when you go live so they know to tune in to your broadcasts at just the right time.

<https://live.fb.com/about/>;

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2
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4 1. Tell fans when
5 you're broadcasting
6 ahead of time.

7 Build anticipation by letting your
8 audience know when you'll be going
9 live with a written post. We've found
10 one day's notice gives people the
11 right amount of time to tune in.



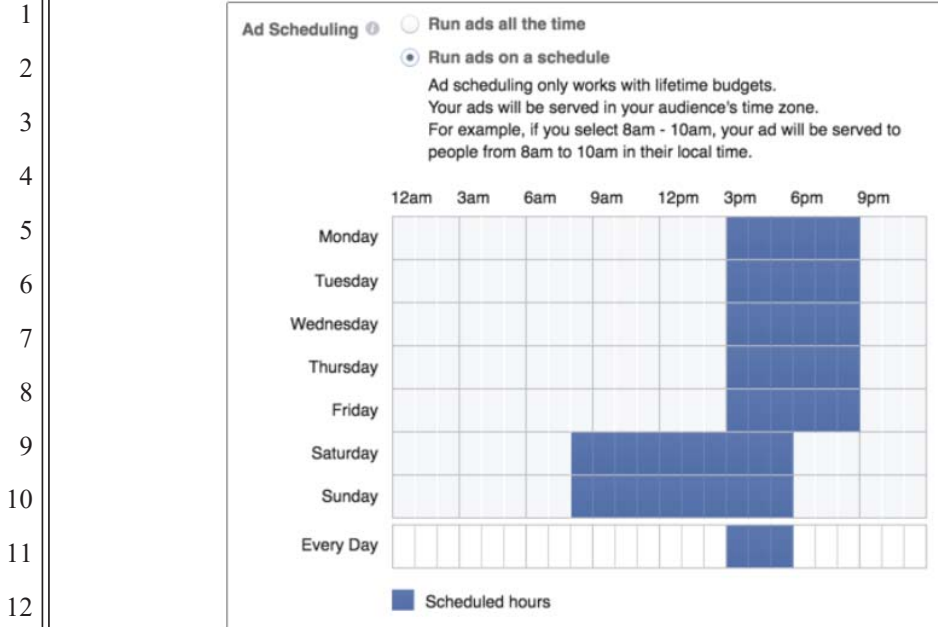
12
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16
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18 4. Ask viewers to
19 subscribe to Live
20 notifications.

21 Remind your audience that they can tap on
22 the Follow button on live videos and videos
23 that were live so that they can get
24 notifications the next time you go live.



25
26
27 [https://live.fb.com/tips/;](https://live.fb.com/tips/)

28 **Facebook Advertising Platform**



13 <https://www.facebook.com/business/help/1381935425400769>; see also

14 <https://www.facebook.com/business/help/1037425549606837>;

15 <https://www.facebook.com/business/ads-guide>.

16 9(d) when the information relevant to the detected triggering event comprises
 17 content information, inserting into the content information a meta tag for one or
 18 more advertisements to be displayed with the content information, and transmitting
 19 the content information that includes the meta tag to a mobile device,

20 On information and belief, when the information relevant to the detected
 21 triggering event comprises content information, Facebook inserts into the content
 22 information a meta tag for one or more advertisements to be displayed with the
 23 content information, and transmits the content information that includes the meta tag
 24 to a mobile device. For example, Facebook in-stream video ads and “ad breaks” are
 25 inserted into content information sent to mobile devices by the Facebook server. On
 26 information and belief, when content (including content delivered via the Facebook
 27 Watch and Live features) is delivered to a mobile device, the content includes “meta

28

tags” or indications of where and when certain advertising information should be inserted.

Video

Facebook In-Stream Video



Design Recommendations

The in-stream video advertising placement allows advertisers to deliver 5-15 second mid-roll video ads to people watching videos on Facebook from familiar publishers and digital-first creators that tailor their content to Facebook audiences.

Upload the highest resolution source video available without letter or pillar boxing (No black bars). [Most file types are supported](#). However, we recommend H.264 compression, square pixels, fixed frame rate, progressive scan, and stereo AAC audio compression at 128kbps+.

[View a chart of the different video requirements across ad placements.](#)

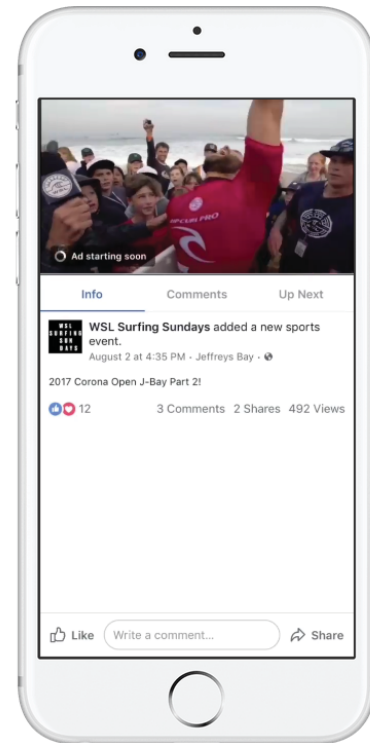
- Video Ratio: 16:9 to 9:16, 16:9 recommended
- Recommended Resolution: Upload the highest resolution video available that meets file size and ratio limits.
- Video File Size: 4GB Max
- Video Length: 5 to 15 seconds
- Video Captions: Optional
- Video Sound: Optional, but strongly recommended
- Video thumbnail images that consist of more than 20% text may experience reduced delivery. [Learn more about text in images.](#)

Technical Requirements

- Aspect Ratio Tolerance : 3%
- Maximum Video Duration in Seconds for Audience Network In-Stream Only Ads : 31

Choose your ad placement¹

Facebook In-Stream Video



<https://www.facebook.com/business/ads-guide/video/facebook-instream-video>;

In-stream video ad delivery

- **Ad breaks.** Publishing partners decide when ad breaks occur, but the first available ad break for in-stream video is at the 1-minute mark.
- **Ad delivery.** To create a good experience for people seeing video ads, we manage ad loads. For instance, not every ad break is filled. To optimize delivery, ad delivery within ad breaks is always being tested according to particular videos and individual viewers.

Specifications for Facebook and Audience Network

All in-stream video ads should include sound.

Facebook in-stream

- Video length: 5–15 seconds
- Objective: Video views, reach, brand awareness or post engagement
- Aspect ratio: Vertical (up to 9:16), Square (1:1), landscape (16:9)

<https://www.facebook.com/business/help/1199881793491951>; *see also*

<https://www.facebook.com/business/help/257808937971866>;

<https://www.facebook.com/business/help/902459833240201>;

<https://www.facebook.com/audiencenetwork/news-and-insights/video-monetization-update>.

9(e) wherein the meta tag identifies the one or more advertisements and advertisement display requirements, and wherein the one or more advertisements are selected based on the detected triggering event.

On information and belief, the meta tags inserted into content information identify the advertisements and advertisement display requirements that should accompany the delivered content. On information and belief, the selected advertisements are tailored according to several user characteristics, including the detected triggering event. Facebook advertisements can be designed to reach a specified audience. When created, these advertisements can be directed toward audiences of a particular demographic, in a particular geographic region, or with a particular interest. On information and belief, the desired audience parameters selected by the advertiser are used to select advertisements to be delivered to a particular mobile device (i.e., in determining which metatag to apply to a given set

of content information). On information and belief, the time triggering event is among the information used by the server to select the appropriate advertisement.

Video

Facebook In-Stream Video



Design Recommendations

The in-stream video advertising placement allows advertisers to deliver 5-15 second mid-roll video ads to people watching videos on Facebook from familiar publishers and digital-first creators that tailor their content to Facebook audiences.

Upload the highest resolution source video available without letter or pillar boxing (No black bars). [Most file types are supported](#). However, we recommend H.264 compression, square pixels, fixed frame rate, progressive scan, and stereo AAC audio compression at 128kbps+.

[View a chart of the different video requirements across ad placements.](#)

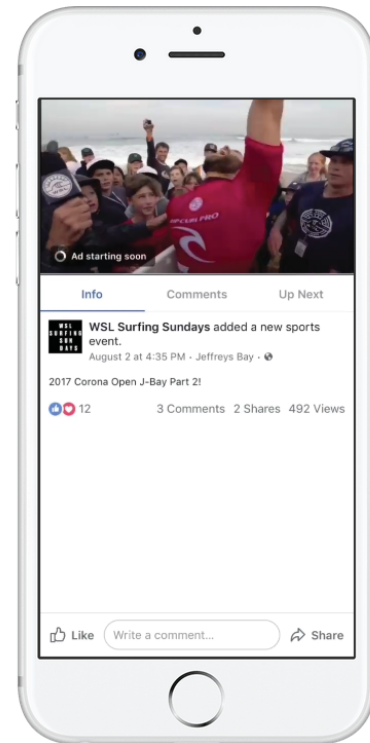
- Video Ratio: 16:9 to 9:16, 16:9 recommended
- Recommended Resolution: Upload the highest resolution video available that meets file size and ratio limits.
- Video File Size: 4GB Max
- Video Length: 5 to 15 seconds
- Video Captions: Optional
- Video Sound: Optional, but strongly recommended
- Video thumbnail images that consist of more than 20% text may experience reduced delivery. [Learn more about text in images.](#)

Technical Requirements

- Aspect Ratio Tolerance : 3%
- Maximum Video Duration in Seconds for Audience Network In-Stream Only Ads : 31

Choose your ad placement¹

Facebook In-Stream Video



<https://www.facebook.com/business/ads-guide/video/facebook-instream-video;>

In-stream video ad delivery

- **Ad breaks.** Publishing partners decide when ad breaks occur, but the first available ad break for in-stream video is at the 1-minute mark.
- **Ad delivery.** To create a good experience for people seeing video ads, we manage ad loads. For instance, not every ad break is filled. To optimize delivery, ad delivery within ad breaks is always being tested according to particular videos and individual viewers.

Specifications for Facebook and Audience Network

All in-stream video ads should include sound.

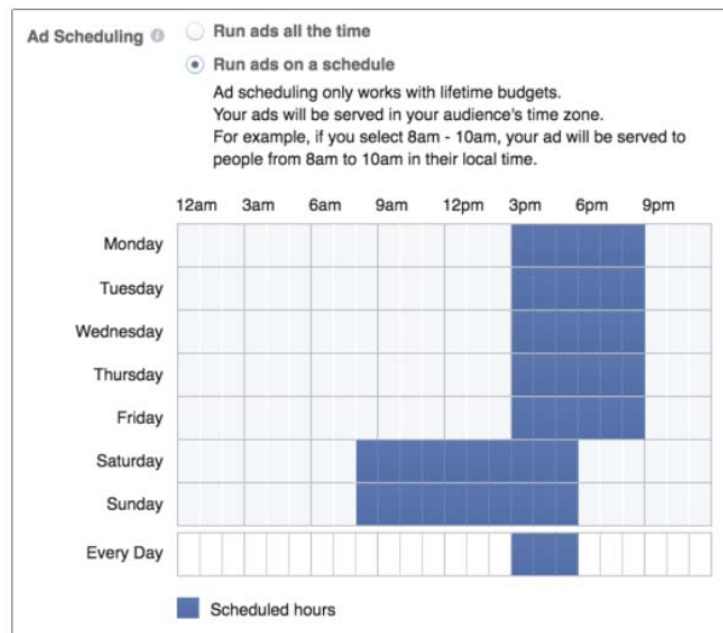
Facebook in-stream

- Video length: 5–15 seconds
- Objective: Video views, reach, brand awareness or post engagement
- Aspect ratio: Vertical (up to 9:16), Square (1:1), landscape (16:9)

<https://www.facebook.com/business/help/1199881793491951>; *see also*

<https://www.facebook.com/business/help/257808937971866>;

<https://www.facebook.com/business/help/902459833240201>;



<https://www.facebook.com/business/help/1381935425400769>; *see also*

<https://www.facebook.com/business/help/1037425549606837>;

<https://www.facebook.com/business/ads-guide>;

Audience
Define who you want to see your ads. [Learn more.](#)

Create New Use a Saved Audience ▼

Custom Audiences ⓘ

Exclude | Create New ▼

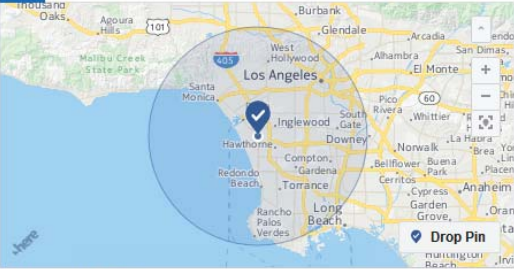
Locations ⓘ **People traveling in this location ▼**

United States

LAX - Los Angeles International Airport + 15mi ▼

Include ▼ | Type to add more locations Browse

Your audience location has been changed from United States to LAX - Los Angeles International Airport. Undo Change



Add Locations in Bulk

Age ⓘ **18 ▼** - **30 ▼**

Gender ⓘ **All** Men Women

Languages ⓘ **French (All)** ×

Detailed Targeting ⓘ INCLUDE people who match at least ONE of the following ⓘ

Interests > Additional Interests

Food

Sports

Travel

Interests > Sports and outdoors > Sports

Basketball

Suggestions Browse

Exclude People or Narrow Audience

<https://www.facebook.com/ads/manage/powereditor/>;

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CORE AUDIENCES

Choose the people you want to reach

Whether you're a flower shop that wants more local customers or an online electronics retailer looking for people interested in your products, our Core Audiences targeting options—the targeting features built into [Ads Manager](#)—allow you to reach people based on their demographics, location, interests and behaviors.



Demographics

Find people based on traits like age, gender, relationship status, education, workplace, job titles and more.

Location

Reach people in areas where you want to do business. You can even create a radius around a store to help create more walk-ins.

Interests

Find people based on what they're into, like hobbies, favorite entertainment and more.

Behaviors

Reach people based on their purchase behaviors, device usage and other activities.

<https://www.facebook.com/business/products/ads/ad-targeting;>

Reach people in the areas where you do business

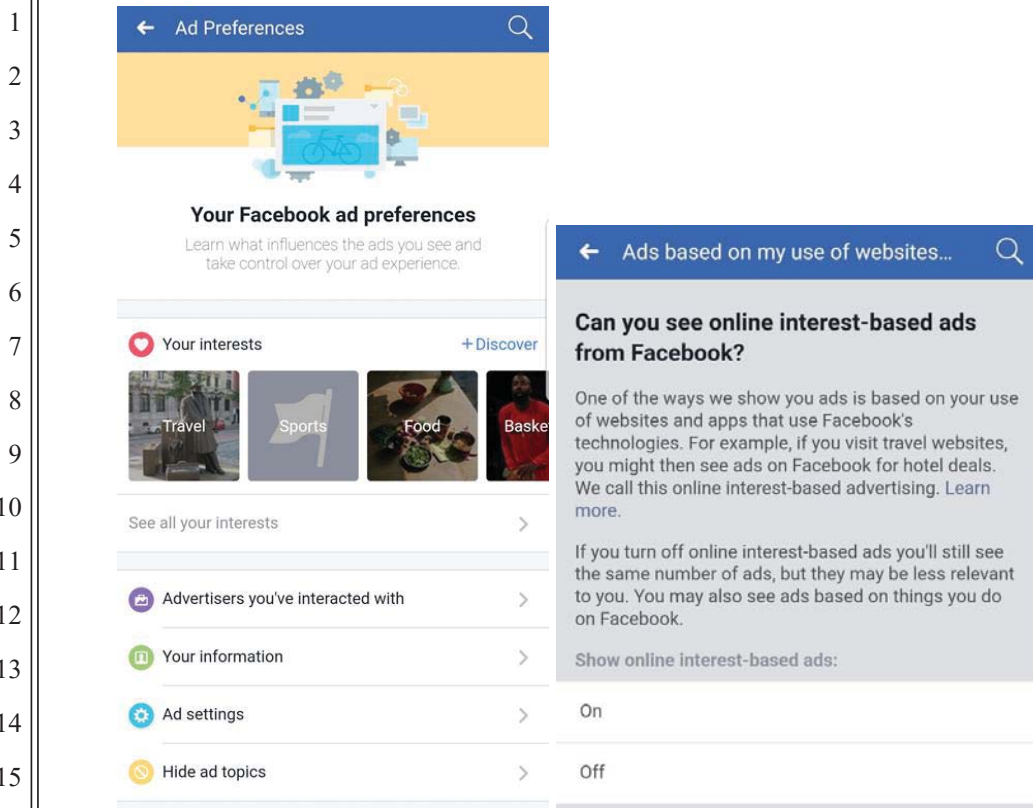


Location targeting helps you find people where you do business, helping you create ads that are relevant to people based on their location.

You can already choose from areas near you, including country, state or ZIP code, but we now have expanded features that will give you even more ways to reach people in specific areas.

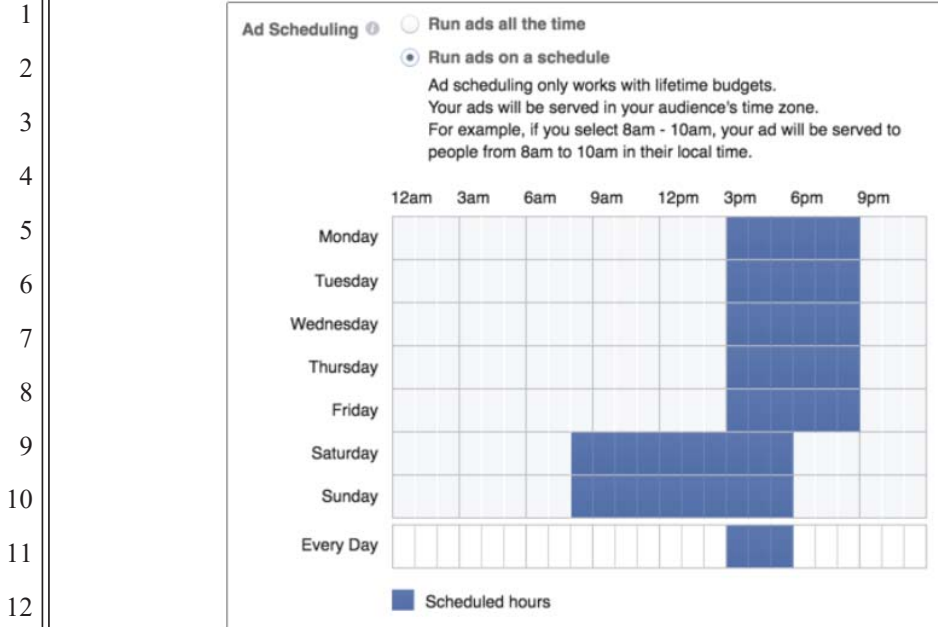
Create Ad

<https://www.facebook.com/business/a/location-targeting;>



10. The server of claim 9, wherein the server is configured to, when the information relevant to the detected triggering event comprises advertisement, transmitting the advertisement to the mobile device instead of the content information that includes the meta tag.

On information and belief, when the information relevant to the detected triggering event comprises advertisement, Facebook transmits the advertisement to the mobile device instead of the content information that includes the meta tag. For example, Facebook's advertising platform allows advertisers to run advertisements based on a specified time schedule. On information and belief, when the advertiser-specified time occurs (i.e., a time triggering event), the advertiser's information relevant to the scheduled advertisement is determined from the memory location channel in which it is stored, and the advertisement is transmitted to the mobile device.



13 <https://www.facebook.com/business/help/1381935425400769>; see also

14 <https://www.facebook.com/business/help/1037425549606837>;

15 <https://www.facebook.com/business/ads-guide>.

16 334. Upon information and belief, Facebook knew of the '929 Patent, or
 17 should have known of the '929 Patent but was willfully blind to its existence. Upon
 18 information and belief, Facebook has had actual knowledge of the '929 Patent since
 19 at least as early as the filing and/or service of this Complaint.

20 335. Facebook has provided access to the '929 Accused Products to its
 21 customers and, on information and belief, instructions to use the '929 Accused
 22 Products in an infringing manner while being on notice of or willfully blind to the
 23 '929 Patent and Facebook's infringement. Therefore, on information and belief,
 24 Facebook knew or should have known of the '929 Patent and of its own infringing
 25 acts, or deliberately took steps to avoid learning of those facts.

26 336. Additional allegations regarding Facebook's knowledge of the '929
 27 Patent and willful infringement will likely have further evidentiary support after a
 28 reasonable opportunity for discovery.

1 337. Facebook's infringement of the '929 Patent was and continues to be
2 willful and deliberate, entitling BlackBerry to enhanced damages and attorneys'
3 fees.

4 338. Facebook's infringement of the '929 Patent is exceptional and entitles
5 BlackBerry to attorneys' fees and costs incurred in prosecuting this action under 35
6 U.S.C. § 285.

7 339. BlackBerry has been damaged by Facebook's infringement of the '929
8 Patent and will continue to be damaged unless Facebook is enjoined by this Court.
9 BlackBerry has suffered and continues to suffer irreparable injury for which there is
10 no adequate remedy at law. The balance of hardships favors BlackBerry, and public
11 interest is not disserved by an injunction.

12 340. BlackBerry is entitled to recover from Facebook all damages that
13 BlackBerry has sustained as a result of Facebook's infringement of the '929 Patent,
14 including without limitation lost profits and not less than a reasonable royalty.

15 **PRAYER FOR RELIEF**

16 WHEREFORE, BlackBerry respectfully requests:

17 A. That Judgment be entered that Defendants have infringed one or more
18 claims of the Patents-in-Suit, directly and indirectly, literally and/or under the
19 doctrine of equivalents;

20 B. That, in accordance with 35 U.S.C. § 283, Facebook, WhatsApp,
21 Instagram, and all their affiliates, employees, agents, officers, directors, attorneys,
22 successors, and assigns and all those acting on behalf of or in active concert or
23 participation with any of them, be preliminarily and permanently enjoined from (1)
24 infringing the Patents-in-Suit and (2) making, using, selling, and offering for sale
25 the Facebook, Facebook Messenger, Facebook Messenger Lite, Facebook
26 Workplace Chat, Facebook Pages Manager, WhatsApp Messenger, and Instagram
27 applications and websites, the Facebook advertising platform, and/or backend
28 servers enabling the accused functionality of such applications, websites, and

1 advertising platform;

2 C. An order directing Defendants to file with the Court and serve upon
3 BlackBerry's counsel within thirty (30) days after entry of the order of injunction, a
4 report setting forth the manner and form in which Defendants have complied with
5 the injunction, including the provision relating to destruction and recall of infringing
6 products and materials;

7 D. An award of damages sufficient to compensate BlackBerry for
8 Defendants' infringement under 35 U.S.C. § 284, including an enhancement of
9 damages on account of Defendants' willful infringement;

10 E. That the case be found exceptional under 35 U.S.C. § 285 and that
11 BlackBerry be awarded its reasonable attorneys' fees;

12 F. Costs and expenses in this action;

13 G. An award of prejudgment and post-judgment interest; and

14 H. Such other and further relief as the Court may deem just and proper.
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1 DATED: April 4, 2018

QUINN EMANUEL URQUHART &
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18 Attorneys for Plaintiff, BlackBerry Limited

1 **DEMAND FOR JURY TRIAL**

2 Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, BlackBerry
3 respectfully demands a trial by jury on all issues triable by jury.

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5 DATED: April 4, 2018

QUINN EMANUEL URQUHART &
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