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19

20   **UNITED STATES DISTRICT COURT**
     CENTRAL DISTRICT OF CALIFORNIA
21

22 Palo Alto Research Center Inc.,	) Case No. 2:20-cv-10755
23 Plaintiff,	)
24 v.	)
25 Snap Inc.,	) **COMPLAINT FOR PATENT INFRINGEMENT**
26 Defendant.	) **DEMAND FOR JURY TRIAL**
27	)
28	)

McKool Smith, P.C.

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Palo Alto Research Center Inc. ("PARC" or "Plaintiff") brings this Complaint against Snap Inc. ("Snap" or "Defendant") for infringement of U.S. Patent Nos. 8,489,599 (the "'599 Patent"); 9,208,439 (the "'439 Patent"); and 8,966,362 (the "'362 Patent") (collectively, the "PARC Patents"). Plaintiff, on personal knowledge as to its own acts, and on information and belief as to all others based on its investigation, alleges as follows:

SUMMARY OF THE ACTION

1.   This is a patent infringement suit relating to Snap's unauthorized and unlicensed use of the PARC Patents on its websites and in its apps. The technologies claimed in the PARC Patents support many of Snap's core functionalities, such as its personalized and targeted advertisement services, its social network feeds, and its notification services features.

2.   PARC has been at the forefront of technological innovation for over 50 years. In addition to inventing the first personal computer, PARC is responsible for many cutting-edge technologies we now consider indispensable to our daily lives, like the laser printer; Ethernet; the windows, pop-up menus, and icons that form today's computer "desktop;" a word processing program that led to Microsoft Word; and computer animation systems that later earned both an Emmy and an Academy Award. PARC's revered scientists and engineers are integral to its history of innovation and work tirelessly, all over the world, to continue creating transformational products for the future. In recognition of that hard work, the United States Patent and Trademark Office ("USPTO") has issued thousands of patents to PARC.

3.   In contrast, Snap recently entered the social media scene as a "real-time picture chatting" messenger in 2011. Snap's founders "wanted a place to share awkward selfies and funny photos" and simultaneously avoid the "hilarious stories about emergency detagging of Facebook photos before job interviews." https://www.snap.com/en-US/news/post/lets-chat.   They   decided   that   Snap

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communications (called snaps) should therefore disappear after being viewed by the recipient. Snap quickly gained steam with high school students "who were using Snap[] as a new way to pass notes in class." *Id*. With the addition of filters, stories, and shopping features, Snap has grown into a platform serving hundreds of millions of users. However, this exponential growth created a series of new challenges for Snap, including how to connect its users with relevant content and serve targeted, relevant advertisements to support the ever-growing needs of Snap's infrastructure.

4.   Because PARC was at the nucleus of the idea that later birthed the Internet, it anticipated many of these issues before Snap ever encountered them. And PARC's ground-breaking artificial intelligence—which has been a focus of PARC engineers since well before Snap existed—forms the backbone of many of these solutions, including those described in the PARC Patents. PARC brings this action to put a stop to Snap's unauthorized and unlicensed use of the PARC Patents.

THE PARTIES

I.   PARC

5.   PARC is a wholly-owned subsidiary of Xerox Corporation ("Xerox"), with a principal place of business at 3333 Coyote Hill Road, Palo Alto, California 94304.

6.   PARC and its corporate parent, Xerox, have made some of the most important technological breakthroughs of the past 100 years, including the first personal computer; the advent of laser printing, Ethernet, and graphical user interfaces ("GUIs"); the "desktop" metaphor ubiquitous with today's computers; object-oriented programming; electronic paper; and many other technologies. Not only do PARC and Xerox have a deeply-rooted past in pioneering printer and computer advancements, but they have also extended that legacy to newer technologies like artificial

COMPLAINT FOR PATENT INFRINGEMENT

intelligence ("AI").[1] AI underlies the machine learning, computer modeling, and data science tools that will help businesses solve the challenges of the 21st century related to big data, personalization, and prediction algorithms.

7.   PARC's innovations aren't limited to its computing origins. PARC develops and builds technologies far beyond its core competencies, and helps others bring their ideas to fruition. For example, PARC has worked with the U.S. Department of Defense, Department of Energy, NASA, and DARPA to meet their ambitious goals for the next generation of technology. PARC also partners with entrepreneurs and start-ups to realize their dreams. These collaborations have resulted in greener air conditioning technologies,[2] floating oceanic sensors, fiber optic sensors, solar energy, natural language search, novel medical devices, and improvements to natural gas processing. Today, PARC continues this tradition to shape the future and improve the world.

II.   DEFENDANT

8.   On information and belief, Snap is a Delaware Corporation with its principal place of business at 2772 Donald Douglas Loop North, Santa Monica, California 90405. Snap is a social media company, which owns and operates the Snapchat app.

9.   On information and belief, Snap (including its subsidiaries) directly and/or indirectly develops, designs, manufactures, uses, distributes, markets, offers to

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[1] *See* Greg Nichols, *PARC is turning 50: From Ethernet and laser printing to this wild new tech*, NDNET, (March 10, 2020), https://www.zdnet.com/article/parc-is-turning-50-from-ethernet-and-laser-printing-to-this-wild-new-tech/.

[2] *See Electrocaloric devices show potential for greener air conditioning.* PhysicsWorld (Oct. 1, 2020), https://physicsworld.com/a/electrocaloric-devices-show-potential-for-greener-air-conditioning/.

3

McKOOL SMITH, P.C.

McKOOL SMITH, P.C.

sell and/or sells infringing products and services in the United States, including in this District, and otherwise purposefully directs infringing activities to this District in connection with its websites and applications.

JURISDICTION AND VENUE

10.   This is an action arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq*. Accordingly, this Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 (federal question) and 1338(a) (action arising under an Act of Congress relating to patents). Venue is proper in this judicial district under 28 U.S.C. §§ 1391 and 1400(b).

11.   More specifically, this action for patent infringement involves Snap's manufacture, use, sale and/or lease, offer for sale and/or lease, of infringing technology within its various applications to create and deliver targeted and personalized ads, and deliver personalized, context-specific content to users (the "Infringing Products" associated with each of the PARC Patents as shown below).

12.   The Infringing Products, which are explained in exemplary detail *infra*, include Snap's targeted and personalized advertising systems; Snap's notification and messaging system; and Snap's comment organization system.

13.   On information and belief, Snap has offices physically located in the Central District of California, including its headquarters. Snap lists Los Angeles as an employment location on its website.[3] On information and belief, Snap owns and/or leases the premises where these offices are located. On information and belief, these Snap offices are staffed by persons directly employed by Snap, many of whom live in this District. On information and belief, Snap employs numerous individuals whom live in and/or work within this District.

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[3]   *See,   e.g.   Jobs*,   SNAPCHAT,   https://www.snap.com/en-US/jobs/?locations=Los+Angeles (last visited November 24, 2020).

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14.   On information and belief, Snap 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 its Infringing Products in the state of California, including in this District, and engaged in infringing conduct within and directed at or from this District.

15.   On information and belief, Snap conducts its regular, established business its offices in this District. These Snap offices and employees develop, provide, maintain, make available, and assist others in using the Infringing Products, including customers in this District, across the United States, and across the globe. Snap has also purposefully and voluntarily placed the Infringing Products into the stream of commerce with the expectation that the Infringing Products will be used in this District. The Infringing Products have been and continue to be distributed to and used in this District. Snap's acts cause injury to PARC, including within this District.

16.   This Court has general and/or specific personal jurisdiction over Snap, and venue is proper because Snap, directly and/or in combination with its subsidiaries and/or through its agents, does continuous and systematic business in this District, including by providing its Infringing Products to residents of this District, providing its Infringing Products that it knew would be used within this District, and/or participating in the solicitation of business from residents of this District.

17.   Moreover, on information and belief, Snap, directly or through its subsidiaries, places its Infringing Products in the stream of commerce, which is directed at this District, with the knowledge and/or understanding that such Infringing Products will be provided to customers within this District. In addition, on information and belief, Snap, directly or through its subsidiaries, employs individuals within this District, including employees who design, develop, use, offer, or make available its Infringing Products to customers here, and maintains offices and facilities here. Snap, directly or through its subsidiaries, operates highly-trafficked commercial

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MCKOOL SMITH, P.C.

websites and mobile applications through which customers in this District regularly use the Infringing Products.

18.   Venue is appropriate in this Court because PARC maintains business connections in this District. PARC has partnered with various organizations to create innovations that have had significant impact on this District. For instance, in collaboration with the Virginia Tech Transport Institute (VTTI), PARC secured funding from the Advanced Research Projects Agency–Energy (ARPA-e) section of the United States Government's TRANSNET program in order to create a pilot program in Los Angeles designed to save substantial amounts of energy previously used on commercial transportation.[4] Other examples include PARC's work with the University of California, Riverside ("UCR"), on (a) a DARPA project related to a UCR AI visual security project;[5] and (b) a Department of Energy project related to the production of carbon fibers. Yet another example is PARC's work with Boeing's HRL Laboratories in Malibu related to diode research.

FACTUAL BACKGROUND

I.   PARC'S HISTORY OF INNOVATION

19.   PARC has spent more than 50 years investing in and developing ground-breaking technology. From revolutionary laser printer and Ethernet innovations to

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[4] Press Release, PARC A Xerox Company, *PARC Secures ARPA-E Funding to Build Energy-Saving Travel Preferences Attractive to Individual Travelers,* PARC, https://www.parc.com/press-releases/parc-secures-arpa-e-funding-to-build-energy-saving-travel-preferences-attractive-to-individual-travelers/ (last visited November 24, 2020).

[5] UC Riverside News, *UC Riverside computer scientists receive grant to improve security of visual artificial intelligence*, https://news.ucr.edu/articles/2020/07/27/uc-riverside-computer-scientists-receive-grant-improve-security-visual (last visited November 24, 2020).

6

MCKOOL SMITH, P.C.

transformational AI, PARC and Xerox have been at the forefront of every major technological advancement in the computer world.

20.   In 1970, PARC was born. PARC was originally tasked with creating computer-related products, and it delivered. In 1971, PARC created laser printers, which developed into a multibillion dollar printing business for Xerox. In 1973, PARC designed the first personal computer called the "Alto" and a system of linked devices, which it coined "Ethernet." In 1975, PARC debuted the first GUIs, and eventually influenced both Microsoft and Apple in their first attempts at personal computing. As a result, PARC has earned the moniker of "the smartest think tank on the planet."[6]

21.   PARC continues to create innovative products today and helps others pioneer the future of science and technology. It lends custom research and development services, technology, expertise, and best practices to several Fortune 500 and Global 1000 companies, small startups, and numerous government agencies. These partnerships have resulted in game-changing solutions to electric grid reliability,[7] climate change, infrastructure maintenance, and other industries.[8] PARC's efforts have created $1 trillion in new industries, generated more than $60 billion in start-ups and spin-offs, and resulted in over 6,000 patents.

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[6] *See* Nicole C. Wong, *Xerox PARC's legacy continues on,* East Bay Times, (Jan. 8, 2007) https://www.eastbaytimes.com/2007/01/08/xerox-parcs-legacy-continues-on-3/.

[7] Press Release, PARC A Xerox Company, The U.S. Department of Energy's Office of Electricity (OE) Selects PARC, Con Edison, and GE to Improve Grid Reliability (July 29, 2019) https://www.parc.com/press-releases/the-u-s-department-of-energys-office-of-electricity-oe-selects-parc-con-edison-and-ge-to-improve-grid-reliability/.

[8] *See Xerox Provides MaaS Services in LA and Denver*, Drive Sweden, (June 7, 2016) https://www.drivesweden.net/en/xerox-provides-maas-services-la-and-denver.

COMPLAINT FOR PATENT INFRINGEMENT

McKool Smith, P.C.

II. SNAP HAS LONG BENEFITED FROM ITS USE OF PARC'S PATENTED TECHNOLOGIES

22.   Snap generates substantially all of its revenue from selling advertising. As Snap acknowledges, it "generate[s] substantially all of [its] revenues by offering various advertising products on Snapchat."[9] In the third quarter of 2020, Snap reported revenue of $679 million.[10] This ad revenue made up substantially all of Snap's total quarterly revenue and reflects its importance to Snap's financial success.[11] In fact, advertising has made up at least 96% of Snap's revenue since at least 2016.[12] These revenues allow Snap to provide a "free" social network to users, maintain and expand its infrastructure, pay its bills, and turn an immense profit.

23.   Snap's traffic and revenue—much of which relates to Snap's infringement as outlined in this Complaint—are increasing at a double-digit rate year-over-year. In the first quarter of 2020, Snap reported a 20% year-on-year increase in daily active users and 44% revenue growth.[13] Similarly, Snap reported 249 million

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[9]   *See Snap, Inc. 2020 Form 10-Q*, SEC ARCHIVES (Sept. 30, 2020) https://www.sec.gov/Archives/edgar/data/0001564408/000156459020047000/snap-10q_20200930.htm.

[10]   *See Snap Inc. Announces Third Quarter 2020 Financial Results*, SNAPCHAT, (October 20, 2020) https://investor.snap.com/news/news-details/2020/Snap-Inc.-Announces-Third-Quarter-2020-Financial-Results/default.aspx.

[11]   *See Snap, Inc. 2020 Form 10-Q*, SEC ARCHIVES (Sept. 30, 2020) https://www.sec.gov/Archives/edgar/data/0001564408/000156459020047000/snap-10q_20200930.htm.

[12]   *See Snap, Inc. 2018 Form 10-K*, SEC ARCHIVES, (Dec. 31 2018) https://www.sec.gov/Archives/edgar/data/0001564408/000156459019002053/snap-10k_20181231.htm.

[13]   *See Snap ad revenue strong – but spend concerns ahead*, The Drum https://www.thedrum.com/news/2020/04/22/snap-ad-revenue-strong-spend-concerns-

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daily active users in the third quarter of 2020, an increase of 39 million or 18% year-over-year.[14]

24.   This increase in active users has insulated Snap from the general downturn the advertising industry has experienced during the COVID-19 pandemic. In fact, Snap's users have drawn retailers that normally rely on other mediums of promoting their products to be part of creative advertising campaigns on the Snapchat platform.[15] Furthermore, during the pandemic, Snap users increased video and voice calling by 50% and ad engagement increased by 36%.[16]

25.   Generating its largest source of income, Snap's unauthorized and unlicensed use of the PARC Patents has substantially contributed to Snap's financial success.

FIRST CLAIM FOR RELIEF

INFRINGEMENT OF U.S. PATENT NO. 8,489,599

26.   Plaintiff realleges and incorporates by reference the allegations of paragraphs 1-25 of this Complaint.

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ahead (last visited November 24, 2020).

[14] *See Snap Inc. Announces Third Quarter 2020 Financial Results* , SNAPCHAT, (October 20, 2020) https://investor.snap.com/news/news-details/2020/Snap-Inc.-Announces-Third-Quarter-2020-Financial-Results/default.aspx

[15] Megan Graham, *As ad market rebounds from coronavirus, Snap says it's 'feeling a lot of momentum,'* CNBC, (Oct. 6, 2020), https://www.cnbc.com/2020/10/06/snapchat-sees-growth-in-direct-response-ads-during-coronavirus-pandemic.html.

[16] *See Snap ad revenue strong – but spend concerns ahead*, The Drum https://www.thedrum.com/news/2020/04/22/snap-ad-revenue-strong-spend-concerns-ahead (last visited November 24, 2020).

MCKOOL SMITH, P.C.

27. The '599 Patent is valid and enforceable under United States Patent Laws.

28. PARC owns, by assignment, all right, title, and interest in and to the '599 Patent, including the right to collect for past damages.

29. A copy of the '599 Patent is attached as Exhibit A.

The '599 Patent

30. The '599 Patent describes, among other things, a method and apparatus for creating and presenting content based on contextual information. In one embodiment, the '599 Patent describes receiving and using contextual information about a user to determine a context associated with the user. The '599 Patent further describes using this context to determine if a trigger condition is met, and, if so, presenting content to a user. The '599 Patent also describes that the user's response may be monitored, and an action may be taken depending on the user's response.

31. By 2008, PARC recognized that although there was a proliferation of mobile devices (including phones, PDA, and laptops), "these mobile devices are not capable of learning and understanding the behavior of their users." '599 Patent at 1:19-22, 1:41-43. Indeed, as the '599 Patent notes:

> these mobile devices cannot determine when and how best to provide
> their users with information or suitable entertainment content, because
> they do not take into account the activities that their users are involved in.

Id. at 1:43-46.

32. To address these issues, in one embodiment, the '599 Patent "provide[s] a content management system for organizing and delivering packages of audio and visual content to a user in response to activities being performed by the user, and in response to a number of environmental factors associated with the user." *Id.* at 3:51-55.

McKool Smith, P.C.

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33. The invention of the '599 Patent works, for example, by "receiv[ing] a set of contextual information with respect to the user, and processes the contextual information to determine a context which is associated with an activity being performed by the user." *Id.* at Abstract.

34. This contextual information can come "from a number of input sources (*e.g.*, a global positioning system (GPS) device, or an accelerometer), which reflects basic information associated with the user." *Id.*at 4:33-36; *see also id.* at 4:36-46, 6:23-7:2. The '599 Patent describes that the preferred system embodiment can "determine a context associated with a user and/or operating conditions of the mobile device based on contextual information." *Id.* at 7:30-33; *see also id.* at 7:33-45. The system "can be programmed to infer specific contexts about the user based on contextual information." *Id.* at 7:46-48; *see also id.* at 7:48-59.

35. One embodiment of the '599 Patent further describes that if the user's context or activity "satisfy a trigger condition," the system "selects content from a content database ... to present to the user." *Id.* at Abstract. These triggers can be pre-defined, including in relation to specific content. *Id.* at 3:60-4:6. Different content can be presented in different contexts. *Id.* at 8:39-50.

36. The '599 Patent's "FIG. 3 presents a flow chart illustrating a process for delivering context-based content to a user in accordance with an embodiment of the present invention[]":

> The content management system begins by receiving contextual information (operation 310), and processing the contextual information to determine a context (operation 320). Next, the content management system determines whether the context satisfies a trigger condition (operation 330). If so, the content management system selects content from the content database based on the context (operation 340), and presents the selected content to the user (operation 350).
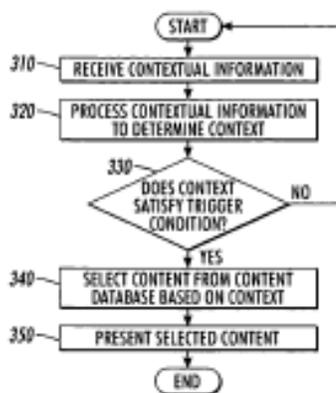
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FIG. 3

9   *Id.* at 18:53-63, Fig. 3.

10   37.   Depending on "an expected response from the user," an embodiment of

11   the '599 Patent "can perform an action responsive to a user response or interaction

12   with the presentation of content." *Id.* at 12:50-51, 12:66-13:1.

13   **'599 Patent Allegations**

14   38.   Snap designed, implemented, and currently uses a variety of advertising

15   tools, including "audiences," to target ads for its social media platform. *See*

16   https://businesshelp.snapchat.com/en-US/article/create-first-campaign. Snap allows

17   advertisers to use "Instant Create" or "Advanced Create" to create ad campaigns. *See*

18   https://forbusiness.snapchat.com/resources/getting-started. In both campaign types,

19   advertisers can select specific audiences, including based on location and device type.

20   https://forbusiness.snapchat.com/resources/getting-started (explaining that location

21   and device type are options for both campaign types);

22   https://businesshelp.snapchat.com/en-US/article/quick-easy (discussing how to create

23   an "Instant Create" campaign); https://businesshelp.snapchat.com/en-

24   US/article/create-first-campaign (discussing how to create an "Advanced Create"

25   campaign).

26   39.   On information and belief after reasonable investigation, Snap's targeted

27   advertising tools ("'599 Infringing Products") infringe the '599 Patent. Snap operates

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McKOOL SMITH, P.C.

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a method for delivering context-based content to a first user. For instance, Snap offers detailed targeting to target ads to users based on user location, or whether the user is on a certain type of device. *See, e.g.,* https://businesshelp.snapchat.com/en-US/article/quick-easy (explaining Snap's detailed targeting options); https://businesshelp.snapchat.com/en-US/article/create-first-campaign (same).

40.   Snap receives at least one content package, wherein the content package includes at least one content piece and a set of rules associated with the content package, wherein the set of rules includes a trigger condition and an expected response, and wherein the trigger condition specifies a context that triggers a presentation of the content piece. For instance, Snap receives ad campaigns containing ads and targets for ads. Snap ad targets include location and device conditions such as a user's location or a user's type of device (including OS, manufacturer, and more) that trigger presenting an ad to the user as well as whether the user is expected to see, click, view, or otherwise interact with the ad. *See, e.g.,* https://businesshelp.snapchat.com/en-US/article/quick-easy (explaining Snap's detailed targeting options); https://businesshelp.snapchat.com/en-US/article/create-first-campaign (same); https://businesshelp.snapchat.com/en-US/article/snap-auction-overview (explaining how Snap charges for advertising events); https://businesshelp.snapchat.com/en-US/article/goal-based-bidding (same).

41.   Snap receives a set of contextual information with respect to the first user, processes the contextual information to determine a current context for the first user, determines whether the current context satisfies the trigger condition, and, in response to the trigger condition being satisfied, presents the content piece to the first user. For instance, Snap receives information about its users, including information about each user's location (whether through GPS, WiFi or other information) and type of device. Snap processes that information to determine the user's location and device type. Snap serves and presents ads to the user after determining that the user accessed

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1   Snap, for instance, with the required device type or from the required location. *See,*

2   *e.g.,*   https://businesshelp.snapchat.com/en-US/article/quick-easy   (describing Snap's

3   location targeting options); https://businesshelp.snapchat.com/en-US/article/create-

4   first-campaign (same); https://www.snap.com/en-US/privacy/privacy-policy

5   (describing how Snap collects information about device type, including hardware

6   model, operating system version, device memory, advertising identifiers, unique

7   application identifiers, apps installed, unique device identifiers, browser type,

8   language, battery level, time zone, mobile phone number, service provider, IP address,

9   signal strength, and location through, *e.g.*, GPS, wireless networks, cell towers, Wi-Fi

10   access points, and other sensors, such as gyroscopes, accelerometers, and compasses.).

11   42.   Snap receives a response from the first user corresponding to the

12   presented content piece and determines whether the received response matches the

13   expected response. For instance, Snap tracks the user's clicks, views, and other

14   responses to the presented ad, and determines whether the user's response is what the

15   advertiser will pay for. As one example, Snap's advertising platform allows

16   advertisers to choose whether to be charged when someone clicks an ad link. *See, e.g.,*

17   https://businesshelp.snapchat.com/en-US/article/snap-auction-overview (explaining

18   how Snap charges advertisers); https://businesshelp.snapchat.com/en-US/article/goal-

19   based-bidding (describing Snap's ad campaign goals, such as likes, views,

20   impressions, swipes, and installs).

21   43.   Snap performs an action based on an outcome of the determination. For

22   instance, Snap charges an advertiser if the user clicks, views, or otherwise responds to

23   the presented ad, and further improves its targeting by tracking user responses to ads

24   and creating metrics reports. *See, e.g.,* https://businesshelp.snapchat.com/en-

25   US/article/ad-performance-metrics (explaining ad performance metrics and related

26   actions); https://businesshelp.snapchat.com/s/article/goal-based-

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28   14

bidding?language=en_US (discussing how advertisers are charged for display of ads and the bidding process).

44.   Snap has infringed and is infringing, individually and/or jointly, either literally or under the doctrine of equivalents, at least claims 1, 12, and 19 of the '599 Patent in violation of 35 U.S.C. §§ 271, *et seq.*, directly and/or indirectly, by making, using, offering for sale, selling, offering for lease, leasing in the United States, and/or importing into the United States without authority or license, the '599 Infringing Products.

45.   Snap has been, and currently is, an active inducer of infringement of one or more claims of the '599 Patent under 35 U.S.C. § 271(b). On information and belief, one or more of the '599 Infringing Products of Snap directly and/or indirectly infringe (by induced infringement) at least claims 1, 12, and 19 of the '599 Patent, literally and/or under the doctrine of equivalents.

46.   This Complaint will serve as notice to Snap of the '599 Patent and its infringement should Snap contend that it did not previously have knowledge thereof.

47.   Snap intentionally encourages and aids at least its users, including advertisers and website and app users, to directly infringe the '599 Patent.

48.   Snap provides the '599 Infringing Products and instructions to its users such that they will use the '599 Infringing Products in a directly infringing manner. Snap markets the '599 Infringing Products to its users and provides instructions to its users on how to use the functionality of the '599 Patent on its website and elsewhere. *See, e.g.,* https://businesshelp.snapchat.com/en-US/article/create-first-campaign; https://forbusiness.snapchat.com/resources/getting-started; https://businesshelp.snapchat.com/en-US/article/quick-easy; https://businesshelp.snapchat.com/en-US/article/create-first-campaign; https://businesshelp.snapchat.com/en-US/article/snap-auction-overview;

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1 https://businesshelp.snapchat.com/en-US/article/ad-performance-metrics;

2 https://businesshelp.snapchat.com/s/article/goal-based-bidding?language=en_US.

3   49.   Snap users directly infringe by using the '599 Infringing Products in their

4 intended manner. Snap induces such infringement by providing the '599 Infringing

5 Products and instructions to enable and facilitate infringement. On information and

6 belief, Snap specifically intends that its actions will result in infringement of the '599

7 Patent or has taken deliberate actions to avoid learning of infringement.

8   50.   Additional allegations regarding Snap's knowledge of the '599 Patent

9 and willful infringement will likely have evidentiary support after a reasonable

10 opportunity for discovery.

11   51.   Snap's infringement of the '599 Patent is willful and deliberate, entitling

12 PARC to enhanced damages and attorneys' fees.

13   52.   Snap's infringement of the '599 Patent is exceptional and entitles PARC

14 to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

15   53.   PARC has been damaged by Snap's infringement of the '599 Patent and

16 will continue to be damaged unless Snap is enjoined by this Court. PARC has suffered

17 and continues to suffer irreparable injury for which there is no adequate remedy at

18 law. The balance of hardships favors PARC, and public interest is not disserved by an

19 injunction.

20   54.   PARC is entitled to recover from Snap all damages that PARC has

21 sustained as a result of Snap's infringement of the '599 Patent, including without

22 limitation, lost profits and/or not less than a reasonable royalty.

23   **SECOND CLAIM FOR RELIEF**

24   **INFRINGEMENT OF U.S. PATENT NO. 9,208,439**

25   55.   Plaintiff realleges and incorporates by reference the allegations of

26 paragraphs 1-54 of this Complaint.

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McKOOL SMITH, P.C.

56.   The '439 Patent is valid and enforceable under United States Patent Laws.

57.   PARC owns, by assignment, all right, title, and interest in and to the '439 Patent, including the right to collect for past damages.

58.   A copy of the '439 Patent is attached as Exhibit B.

The '439 Patent

59.   The '439 Patent describes, among other things, a method and system for collecting mobile device contextual information and updating recommendation systems for activities or items of interest to a user. In one embodiment, the '439 Patent describes receiving mobile device data collected through detectors related to the device's surroundings. The '439 Patent further describes using that data to modify a context graph that stores information about a device user's behavior. The '439 Patent also describes sending a notification when certain changes to the context graph are made.

60.   By 2013, PARC recognized that although "mobile devices equipped with technology to detect physical surroundings [had] become more pervasive in our everyday lives," using this additional information was difficult as it "takes considerable time and expense to develop such context-aware systems." '439 Patent at 1:14-33. The '439 Patent therefore sought to "solve the problem of efficiently developing context aware systems by providing a generic contextual intelligence platform that may be adapted for specific applications." *Id.* at 2:49-52. "Such a contextual intelligence system facilitates real-time processing of contextual information and support[s] contextual application development for Web and mobile applications." *Id.* at 2:53-55.

61.   To achieve its goals, the '439 Patent "provides a system for providing user information to a recommender." *Id.* at Abstract. In one embodiment, the '439 Patent system "receives, from a mobile device, event data derived from contextual

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data collected using detectors that detect the mobile device's physical surroundings" *Id.* The system then "modifies [a] context graph based on the event data" and "determines that the modification to the context graph matches [a] registration, and sends a notification of context graph change to [a] recommender." *Id.*

62.   In one '439 Patent embodiment, "[c]ontextual data describes a computing context detected by a mobile device client, such as physical surroundings and/or application and/or operating system context." *Id.* at 2:60-62. "The client-side architecture collects contextual data by detecting a computing context including physical surroundings, application, and operating system context." *Id.* at 3:1-3. This collection may be done "using detectors such as a GPS, an accelerometer, and/or a compass." *Id.* at 3:49-51; *see also id.* at 4:31-40. The client-side may determine high-level events (*e.g.*, "a user reading email") and low-level events (*e.g.*, walking, button push, screen capture) based on information collected from the device. *Id.* at 3:4-22. The client can then "transmit both high-level events and low-level events to the server via an event posting interface 302 and/or a RESTful WebAPI." *Id.* at 5:42-44. "The server-side architecture stores the contextual data and uses the contextual data to modify a graph containing user behavior and interest information." *Id.* at 2:62-65.

63.   In one embodiment, the '439 Patent describes that "[t]he context graph includes information about user behavior and/or user interests." *Id.* at 1:41-43. "The context graph stores generic user model information that may be adapted for application-specific user models...." *Id.* at 5:32-34. One exemplary context graph "is a per-user, in-memory, graph-based model that stores facts and assertions about user behavior and actions. Context graph 406 is a database of information about the user." *Id.* at 7:28-31. This context graph can be used, for instance, by "recommenders [to] modify implementation-specific user models based on the data received from the context graph, and make recommendations based on the information-specific user models." *Id.* at 6:67-7:4.

64.   As one example, the '439 Patent describes that "the system may notify recommenders of context graph changes." *Id.* at 7:55-56. This context graph information, and changes to the graph, can be used by recommenders to "generate and/or modify recommendations." *Id.* at 8:6-11.

'439 Patent Allegations

65.   Snap designed, implemented, and currently uses a variety of advertising tools, such as "audiences," to target ads for its social media platform. *See* https://businesshelp.snapchat.com/en-US/article/create-first-campaign. Snap allows advertisers to use "Instant Create" or "Advanced Create" to create ad campaigns. *See* https://forbusiness.snapchat.com/resources/getting-started. In both campaign types, advertisers can select specific audiences, including based on location. https://forbusiness.snapchat.com/resources/getting-started (explaining that location is an option for both campaign types); https://businesshelp.snapchat.com/en-US/article/quick-easy (discussing how to create an "Instant Create" campaign); https://businesshelp.snapchat.com/en-US/article/create-first-campaign (discussing how to create an "Advanced Create" campaign).

66.   On information and belief after reasonable investigation, Snap's targeted advertising tools ("'439 Infringing Products") infringe the '439 Patent. Snap receives, from a mobile device, event data derived from contextual data collected using detectors that detect a physical context surrounding the mobile device. For instance, Snap receives device data and data collected using GPS, WiFi, and other location-tracking devices within the user's mobile phone. From that data, Snap derives the user's location and device type, among other things. *See, e.g.*, https://www.snap.com/en-US/privacy/privacy-policy (describing how Snap collects location data in order to serve more relevant ads, including the collection of user location data through GPS, wireless networks, cell towers, Wi-Fi access points, and other sensors, such as gyroscopes, accelerometers, and compasses.").

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67. Snap modifies a context graph that stores facts and assertions about a user's behavior and interests using the event For instance, Snap uses recent/current device type and location data (along with other information) to modify and update the Snap context graph over time. This context graphs stores facts and assertions about the user's behavior and interests, including location history, likes, dislikes, and more. *See, e.g.*, https://www.snap.com/en-US/privacy/privacy-policy (describing how Snap collects location data in order to serve more relevant ads, including the collection of user location data through GPS, wireless networks, cell towers, Wi-Fi access points, and other sensors, such as gyroscopes, accelerometers, compasses, favorite places, Memories and Our Story locations); https://arxiv.org/pdf/1906.00355.pdf (describing Snap action graphs); https://techcrunch.com/2020/06/12/snapchat-looks-to-maintain-its-own-friendships-with-devs/ (describing Snap's social graph).

68. Snap, in response to determining that there exists a registration for notification of changes that matches the modification to the context graph, sends a notification of context graph change to a recommender. For instance, Snap advertisers may elect to be notified of changes to the Snap context graph via Snap sending notifications of the changes to the advertiser by serving advertisements or customizing ad content when event data, such as user location and device type, processed into the Snap context graph, indicates the user is within a location or contains a device type for which an advertisement has been targeted for delivery. *See, e.g.,* https://businesshelp.snapchat.com/en-US/a/location-targeting (describing Snap's location targeting); https://www.snap.com/en-US/privacy/privacy-policy (describing how Snap collects location data in order to serve more relevant ads, including the collection of user location data through GPS, wireless networks, cell towers, Wi-Fi access points, and other sensors, such as gyroscopes, accelerometers, compasses, favorite places, Memories and Our Story locations); https://arxiv.org/pdf/1906.00355.pdf (describing Snap action graphs);

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McKool Smith, P.C.

1 https://techcrunch.com/2020/06/12/snapchat-looks-to-maintain-its-own-friendships-
2 with-devs/ (describing Snap's social graph).

3   69.   Snap has infringed and is infringing, individually and/or jointly, either
4 literally or under the doctrine of equivalents, at least claims 1, 7, and 13 of the '439
5 Patent in violation of 35 U.S.C. §§ 271, *et seq.*, directly and/or indirectly, by making,
6 using, offering for sale, selling, offering for lease, leasing in the United States, and/or
7 importing into the United States without authority or license, the Snap Infringing
8 Products.

9   70.   Snap has been, and currently is, an active inducer of infringement of one
10 or more claims of the '439 Patent under 35 U.S.C. § 271(b). On information and
11 belief, one or more of the '439 Infringing Products of Snap directly and/or indirectly
12 infringe (by induced infringement) at least claims 1, 7, and 13 of the '439 Patent,
13 literally and/or under the doctrine of equivalents.

14   71.   This Complaint will serve as notice to Snap of the '439 Patent and its
15 infringement should Snap contend that it did not previously have knowledge thereof.

16   72.   Snap intentionally encourages and aids at least its users, including
17 advertisers and website and app users, to directly infringe the '439 Patent.

18   73.   Snap provides the '439 Infringing Products and instructions to its users
19 such that they will use the '439 Infringing Products in a directly infringing manner.
20 Snap markets the '439 Infringing Products to its users and provides instructions to its
21 users on how to use the functionality of the '439 Patent on its website and elsewhere.
22 *See, e.g.,*   https://businesshelp.snapchat.com/en-US/article/create-first-campaign;
23 https://forbusiness.snapchat.com/resources/getting-started;
24 https://businesshelp.snapchat.com/en-US/article/quick-easy;
25 https://businesshelp.snapchat.com/en-US/article/create-first-campaign;
26 https://businesshelp.snapchat.com/en-US/a/location-targeting.

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McKool Smith, P.C.

74.   Snap users directly infringe by using the '439 Infringing Products in their intended manner. Snap induces such infringement by providing the '439 Infringing Products and instructions to enable and facilitate infringement. On information and belief, Snap specifically intends that its actions will result in infringement of the '439 Patent or has taken deliberate actions to avoid learning of infringement.

75.   Additional allegations regarding Snap's knowledge of the '439 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

76.   Snap's infringement of the '439 Patent is willful and deliberate, entitling PARC to enhanced damages and attorneys' fees.

77.   Snap's infringement of the '439 Patent is exceptional and entitles PARC to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

78.   PARC has been damaged by Snap's infringement of the '439 Patent and will continue to be damaged unless Snap is enjoined by this Court. PARC has suffered and continues to suffer irreparable injury for which there is no adequate remedy at law. The balance of hardships favors PARC, and public interest is not disserved by an injunction.

79.   PARC is entitled to recover from Snap all damages that PARC has sustained as a result of Snap's infringement of the '439 Patent, including without limitation, lost profits and/or not less than a reasonable royalty.

<div align="center">

THIRD CLAIM FOR RELIEF

INFRINGEMENT OF U.S. PATENT NO. 8,966,362

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80.   Plaintiff realleges and incorporates by reference the allegations of paragraphs 1-79 of this Complaint.

81.   The '362 Patent is valid and enforceable under United States Patent Laws.

1   82.   PARC owns, by assignment, all right, title, and interest in and to the '362

2 Patent, including the right to collect for past damages.

3   83.   A copy of the '362 Patent is attached as Exhibit C.

4 #### The '362 Patent

5   84.   The '362 Patent describes, among other things, a method and system for

6 disseminating tagged content over networks. In one embodiment, the '362 Patent

7 describes receiving tagged content where the tag indicates and action to be performed

8 along with a recipient. The '362 Patent further describes processing the tagged content

9 to determine the action to be performed along with the recipient. The tagged content is

10 then disseminated to the recipient.

11   85.   In 2007, PARC recognized that "current dissemination mechanisms, such

12 as email, networked file systems, document management systems, or workflow

13 systems suffer from several limitations," including that "a user is typically required to

14 manually extract the specific content to be shared." '362 Patent at 1:15-18, 1:21-22.

15 Furthermore, the '362 Patent notes that this "manual process not only is cumbersome,

16 but also makes it difficult to reestablish context for the information or to incorporate

17 responses into the original content when the recipient replies with comments or

18 changes to the shared content." *Id.* at 1:24-28.

19   86.   To address these problems, the '362 Patent "provides a system that

20 facilitates content dissemination." *Id.* at 1:42-43. The '362 Patent does so by

21 "allow[ing] a user to add a tag to a first document, wherein the tag indicates an

22 operation to be performed on a portion of the document. The system then processes

23 the tag and performs the operation on the document portion based on the tag." *Id.* at

24 1:44-46.

25   87.   The invention of the '362 Patent works, for example, by "allow[ing] a

26 user to add a tag to a first document, wherein the tag indicates an operation to be

27 performed on a portion of the document." *Id.* at Abstract. Thereafter, the '362

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1   invention "processes the tag and performs the operation on the document portion

2   based on the tag" *Id.* The invention of the '362 Patent is advantageous because it may

3   (1) "reduce the amount of information the recipient needs to consider"; (2) "facilitate

4   dissemination of only a portion of a sensitive document"; and (3) "lower[] the barrier

5   to and overhead of information exchange." *Id.* at 3:21-49.

6   88.   In one '362 Patent embodiment, "an exemplary architecture that

7   facilitates in-document tagging" is disclosed. *Id.* at 7:64-66. Tags can be used to, for

8   instance, share content with another person or group or "to implement other functions,

9   such as annotation services." *Id.* at 8:24-36, 8:57-67. Users may insert tags by using

10   "a visual representation, such as a drop-down menu, of ready-to-use tags" or by

11   "add[ing] to and/or edit[ing] existing tags." *Id.* at 11:16-21. Furthermore, "a tag can be

12   formulated in natural language instead of in syntactical specifications." *Id.* at 9:7-8.

13   89.   The '362 Patent further describes that the tags are processed. This

14   processing can be triggered implicitly or explicitly, including "at pre-determined

15   times…or when the user performs certain operations." *Id.* at 8:4-14. Once processed,

16   the tagged documents may be disseminated. *Id.* at 8:4-7. As the '362 Patent describes,

17   "a number of communication services can be used to deliver the content." *Id.* at 8:17-

18   18.

'362 Patent Allegations

20   90.   Snap designed, implemented, and currently uses a system for allowing

21   users to tag other users or groups, including "mentions," over its social media

22   platform. "Mentions" allow users to tag friends in snaps uploaded to "Stories." The

23   mentioned Snapchatter will be notified in a chat window that he/she has been

24   mentioned in a story. *See* https://support.snapchat.com/en-US/a/send-snap; *see also*

25   https://www.theverge.com/2018/4/3/17191910/snapchat-friend-tagging-stories-group-

26   video-chat-features (describing Snap's "Mentions" feature, which allows users to tag

27   others).

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McKool Smith, P.C.

91.   On information and belief after reasonable investigation, Snap's "Mentions" feature ("'362 Infringing Products") infringes the '362 Patent. Snap facilitates content dissemination. For instance, Snap facilitates the sharing of a variety of content, including text, images, video, advertisements, and more, amongst users. *See, e.g.,* https://support.snapchat.com/en-US/article/send-snap (discussing how to send a "Snap").

92.   Snap receives, within a document editing system, a user input comprising one or more tags to insert inline within a document, wherein the document is formulated in a natural language and wherein a respective tag is at least partly formulated in natural language and is visible to the user, and indicates an action to be performed on a partial portion of the document and a receiving entity corresponding to the action. For instance, Snap receives, within its systems, user snaps/stories that include content such as text, picture, video, advertisements, and "mentions" of another user. The snap is formulated in a natural language and the "mention" is at least partly formulated in natural language visible to the user. The inclusion of a "mention" in a snap/story indicates that the snap/story should, for example, be shared with the mentioned user(s). *See, e.g.,* https://support.snapchat.com/en-US/a/creative-tools (explaining how to mention friends in a snap); https://support.snapchat.com/en-US/a/my-story (explaining how to mention friends in a story); https://www.theverge.com/2018/4/3/17191910/snapchat-friend-tagging-stories-group-video-chat-features (describing Snap's "Mentions" feature, which allows users to tag others).

93.   Snap processes the one or more tags according to one or more rules to determine both the action to be performed on the partial portion of the document and the receiving entity. For instance, Snap processes the one or more "mentions" according to one or more rules when determining to share snaps/stories that contain a "mention" to the mentioned user's chat. *See, e.g.,* https://support.snapchat.com/en-

McKOOL SMITH, P.C.

US/a/creative-tools (explaining how to mention friends in a snap); https://support.snapchat.com/en-US/a/my-story (explaining how to mention friends in a story); https://www.theverge.com/2018/4/3/17191910/snapchat-friend-tagging-stories-group-video-chat-features (describing Snap's "Mentions" feature, which allows users to tag others).

94.   Snap disseminates the document portion indicated by the one or more tags to the corresponding receiving entity to facilitate performing the action specified in the one or more tags on the document portion. For instance, Snap disseminates the snap/story indicated by the "mention" to the mentioned user's chat window and by sending the mentioned user a mobile notification of the "mention." *See, e.g.*, https://support.snapchat.com/en-US/a/creative-tools (explaining how to mention friends in a snap); https://support.snapchat.com/en-US/a/my-story (explaining how to mention friends in a story); https://support.snapchat.com/en-US/a/ios-notifications (discussing notification settings for iOS); https://support.snapchat.com/en-US/article/android-notifications (same for Android); https://www.theverge.com/2018/4/3/17191910/snapchat-friend-tagging-stories-group-video-chat-features (describing Snap's "Mentions" feature, which allows users to tag others).

95.   Snap has infringed and is infringing, individually and/or jointly, either literally or under the doctrine of equivalents, at least claims 1, 12, and 23 of the '362 Patent in violation of 35 U.S.C. §§ 271, *et seq.*, directly and/or indirectly, by making, using, offering for sale, selling, offering for lease, leasing in the United States, and/or importing into the United States without authority or license, the Snap Infringing Products.

96.   Snap has been, and currently is, an active inducer of infringement of one or more claims of the '362 Patent under 35 U.S.C. § 271(b). On information and belief, one or more of the '362 Infringing Products of Snap directly and/or indirectly

infringe (by induced infringement) at least claims 1, 12, and 23 of the '362 Patent, literally and/or under the doctrine of equivalents.

97.   This Complaint will serve as notice to Snap of the '362 Patent and its infringement should Snap contend that it did not previously have knowledge thereof.

98.   Snap intentionally encourages and aids at least its users, including advertisers and website and app users, to directly infringe the '362 Patent.

99.   Snap provides the '362 Infringing Products and instructions to its users such that they will use the '362 Infringing Products in a directly infringing manner. Snap markets the '362 Infringing Products to its users and provides instructions to its users on how to use the functionality of the '362 Patent on its website and elsewhere. *See,* *e.g.*, https://support.snapchat.com/en-US/a/send-snap; https://support.snapchat.com/en-US/a/creative-tools; https://support.snapchat.com/en-US/a/my-story; https://support.snapchat.com/en-US/a/ios-notifications; https://support.snapchat.com/en-US/article/android-notifications.

100.   Snap users directly infringe by using the '362 Infringing Products in their intended manner. Snap induces such infringement by providing the '362 Infringing Products and instructions to enable and facilitate infringement. On information and belief, Snap specifically intends that its actions will result in infringement of the '362 Patent or has taken deliberate actions to avoid learning of infringement.

101.   Additional allegations regarding Snap's knowledge of the '362 Patent and willful infringement will likely have evidentiary support after a reasonable opportunity for discovery.

102.   Snap's infringement of the '362 Patent is willful and deliberate, entitling PARC to enhanced damages and attorneys' fees.

103.   Snap's infringement of the '362 Patent is exceptional and entitles PARC to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

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1   104.   PARC has been damaged by Snap's infringement of the '362 Patent and

2 will continue to be damaged unless Snap is enjoined by this Court. PARC has suffered

3 and continues to suffer irreparable injury for which there is no adequate remedy at

4 law. The balance of hardships favors PARC, and public interest is not disserved by an

5 injunction.

6   105.   PARC is entitled to recover from Snap all damages that PARC has

7 sustained as a result of Snap's infringement of the '362 Patent, including without

8 limitation, lost profits and/or not less than a reasonable royalty.

9   ## **PRAYER FOR RELIEF**

10   WHEREFORE, PARC prays for a judgment in its favor and against Snap and

11 respectfully requests the following relief:

12   1.   A judgment declaring that Snap has infringed one or more claims of each

13 of the PARC Patents in this litigation pursuant to 35 U.S.C. §§ 271(a) and/or 271(b);

14   2.   An injunction pursuant to 35 U.S.C. § 283 permanently enjoining Snap,

15 its officers, directors, attorneys, agents, servants, employees, parties in privity with,

16 and all persons in active concert or participation with, any of the foregoing, from

17 continued acts of infringement, contributing to infringement, or inducing infringement

18 of the PARC Patents in this litigation;

19   3.   A judgment requiring Snap to make an accounting of damages resulting

20 from Snap's infringement of the PARC Patents in this litigation;

21   4.   A judgment awarding PARC its damages resulting from Snap's

22 infringement of the PARC Patents in this litigation, and increasing such damages

23 pursuant to 35 U.S.C. § 284 because of the willful and deliberate nature of Snap's

24 conduct;

25   5.   A judgment requiring Snap to pay PARC's costs, expenses, and pre-

26 judgment and post-judgment interest for Snap's infringement of each of the PARC

27 Patents in this litigation;

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MCKOOL SMITH, P.C.

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1   6.   A judgment finding that this is an exceptional case and awarding PARC's

2 attorneys' fees pursuant to 35 U.S.C. § 285; and

3   7.   Such other relief as the Court deems just and proper.

6 DATED: November 25, 2020   Respectfully submitted,

MCKOOL SMITH, P.C.

BY _/s/ Alan P. Block_____

ALAN P. BLOCK

ATTORNEYS FOR PLAINTIFF
PALO ALTO RESEARCH CENTER INC.

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DEMAND FOR JURY TRIAL

In accordance with Rule 38 of the Federal Rules of Civil Procedure and Local Rule CV-38-1, Plaintiff respectfully demands a jury trial of all issues triable to a jury.

DATED: November 25, 2020   Respectfully submitted,

MCKOOL SMITH, P.C.

BY _/s/ Alan P. Block_

ALAN P. BLOCK

ATTORNEYS FOR PLAINTIFF
PALO ALTO RESEARCH CENTER INC.

MCKOOL SMITH, P.C.

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