UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,
Petitioner,

v.

UNILOC 2017 LLC,
Patent Owner.

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Case IPR2017-01993
Patent 9,414,199 B2

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Before MIRIAM L. QUINN, KERRY BEGLEY, and
CHARLES J. BOUDREAU, *Administrative Patent Judges*.

QUINN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a)

I. INTRODUCTION

We instituted *inter partes* review pursuant to 35 U.S.C. § 314 to review claims 1–5 of U.S. Patent No. 9,414,199 B2 ("the '199 patent"), owned by Uniloc 2017 LLC. We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has not shown by a preponderance of the evidence that claims 1–5 of the '199 patent are unpatentable.

II. BACKGROUND

A. THE '199 PATENT

1. Disclosure

The '199 patent is directed to methods and systems for delivery of information, such as advertisements, from a server to user devices based on "the current location" as well as "predicted future locations" of the devices. Ex. 1001, [57], 1:30–33, 2:39, 3:10–19. The server gathers location information from user devices "[o]ver time" and "uses the gathered location information to periodically predict future locations of the devices." *Id.* at 1:33–36, 3:15–19. Upon determining that a "device is likely to be in one [or more] predetermined locations within [a] predetermined maximum amount of time with at least the predetermined minimum likelihood," the server performs one or more actions, such as "sending a promotion or advertisement" to the device. *Id.* at 1:37–46. For example, a department store manager seeking to send a promotional code to anyone who is at least 50% likely to visit a competing store within one hour can specify the "locations of all competing stores within a five-mile radius" as the "one or more predetermined locations," "50% as the predetermined minimum

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likelihood," and "one hour as the predetermined maximum amount of time." *Id.* at 1:52–61. "The manager can also specify days and times at which the actions are applicable," for example, during store hours. *Id.* at 1:61–64.

In a disclosed embodiment, server 106 maintains location data record 300 for user device 102A, which includes location reports 304 identifying location 306 of the device at various dates and times. *Id.* at 4:22–29, Fig. 3. Server 106 also stores location-based action records 400, each with trigger event 402. *Id.* at 4:34–42. "[T]rigger event 402 specifies, as a condition for performance of action 404 . . . , that user device 102A must be determined to be at least as likely as threshold likelihood 502 . . . to be at any of applicable locations 506 within an amount of time represented by threshold time 504." *Id.* at 4:54–58. "In essence, trigger event 402 asks whether user device 102A is likely to be in any of a number of locations within a predetermined amount of time in the future." *Id.* at 4:44–47.

Server 106, in processing location-based action record 400, generally uses two predictive patterns to determine "the likelihood of user device 102A . . . be[ing] in a particular place at a particular time." *Id.* at 5:4–7, 5:15–19. Specifically, server 106 analyzes location data record 300 of user device 102A for "location patterns" associated with: (1) "times of day, days of the week, days of the month, and days of the year," and (2) "other locations of user device 102A." *Id.* at 5:15–22, 5:32–34. If trigger event 402 of location-based action record 400 is satisfied, server 106 performs action 404, such as sending a message to user device 102A. *Id.* at 4:59–64, 6:8–12; *see id.* at 4:29–33.

2. Prosecution History

During prosecution of the '199 patent, the Examiner issued a Final Rejection of claims 1–5—as subsequently issued—under 35 U.S.C. § 103

over U.S. Patent Application Publication Nos. 2013/0036165 A1 ("Tseng")
and 2005/0249175 A1 ("Nasu"). Ex. 1002, 55–56, 70–72. Patent Owner
appealed the rejection to the Board. *Id.* at 46.

On June 1, 2016, the Board reversed the Examiner's rejection. *Id.*
at 19–24. The Board explained that "in the context of" claim 1 and the
specification, the term "predetermined likelihood" "refers to the probability
or the percentage likelihood that a mobile device will be at a predicted
location in the future." *Id.* at 23. The Board disagreed with the Examiner
that the term could "be broadly interpreted to encompass" Tseng's "interest
value" and "relevance score," because—in contrast to the claimed
"predetermined likelihood"—these elements relate to a user's personal
interest in and preference for different categories of items. *Id.* at 22–24, 43.

The Examiner then issued a Notice of Allowability. *Id.* at 4–8.

B. ILLUSTRATIVE CLAIM

Challenged claim 1, reproduced below, is the sole independent claim
of the '199 patent, and is illustrative of the recited subject matter:

> 1. A method for delivering information to two or more user
> devices, the method comprising:
>   retrieving the information from one or more data records that
>   associate the information with one or more predetermined
>   locations, a predetermined maximum amount of time, a
>   predetermined likelihood, and one or more predetermined
>   actions; and
>   for each of the two or more user devices:
>   predicting whether the user device will be at any of the one or
>   more predetermined locations within the predetermined
>   maximum amount of time with at least the predetermined
>   likelihood; and
>   in response to the predicting that the user device will be at any
>   of the one or more predetermined locations within the
>   predetermined maximum amount of time with at least the

> predetermined likelihood, performing the one or more predetermined actions;
>
> wherein at least one of the actions includes delivering the information to the user device.

Ex. 1001, 8:7–25. We refer to the steps of claim 1 as the retrieving step, the predicting step, and the performing step, respectively.

C. PROCEDURAL HISTORY

Petitioner, Apple Inc., filed a Petition for *inter partes* review challenging claims 1–5 of the '199 patent. Paper 1 ("Pet."). Patent Owner, Uniloc 2017 LLC, filed a Preliminary Response. Paper 7 ("Prelim. Resp."). On March 8, 2018, we determined that Petitioner had shown a reasonable likelihood of prevailing on its unpatentability challenge as to all the challenged claims, but not on all asserted grounds. Paper 10 ("Dec. on Inst."). On April 24, 2018, the Supreme Court held that a decision to institute under U.S.C. § 314 may not institute on fewer than all claims challenged in a petition. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018). In light of the Board's Guidance on the Impact of *SAS* on AIA Trial Proceedings, posted to the Office's website on April 26, 2018,[1] we modified our Institution Decision to institute on all claims and all grounds. Paper 13.

During trial, Patent Owner filed a Patent Owner Response (Paper 14 ("PO Resp.")) and Petitioner filed a Reply (Paper 15 ("Reply")). Patent Owner requested authorization to file a Sur-reply, which we granted. (Paper 18 ("Sur-reply")). We heard oral argument on December 4, 2018, a transcript of which is filed in the record. Paper 24 ("Tr.").

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[1] *See* https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial.

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