

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

STODGE, INC. D/B/A POSTSCRIPT

Petitioner

v.

ATTENTIVE, INC.

(record) Patent Owner

IPR2024-00069
Patent No. 11,416,897

**PETITION FOR INTER PARTES REVIEW
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.200 ET. SEQ**

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TABLE OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 11,416,897 (“ the ’897 patent ”).
1002	Declaration of Dr. Henry Houh.
1003	C.V. of Dr. Henry Houh.
1004	File History of U.S. App. Ser. No. 17/569,265 (issued as the ’897 patent).
1005	U.S. Pat. No. 8,015,615 (“ Agrawal ”).
1006	U.S. Pat. App. Ser. No. 10/375,900 (“ the ’900 application ”).
1007	U.S. Pat. No. 8,532,283 (“ Haggerty ”).
1008	U.S. Pat. App. Ser. No. 13/461,541 (“ the Haggerty ’541 application ”).
1009	U.S. Pat. App. Pub. 2016/0142858 (“ Molinet ”).
1010	U.S. Prov. App. Ser. No. 62/079,512 (“ The Molinet ’512 Provisional ”).
1011	U.S. Pat. App. Pub. 2015/0178784 (“ Oliver ”).
1012	Cristal, G., “Ad Serving Technology, Understand the marketing revelation that commercialized the internet”, ISBN: 1484867572 (2014)(“ Ad Serving Technology ”).
1013	U.S. Pat. App. Pub. 2015/0142568 (“ Hsu ”).
1014	Plaintiff’s Answering Brief in Opposition to Defendant’s Motion to Dismiss Complaint Pursuant to Fed. R. Civ. P. 12(B)(6) in <i>Attentive Mobile Inc. v. Stodge Inc. d/b/a Postscript</i> , Case, No. 1-23-cv-00087 (D. Del., Filed March. 15, 2023).
1015	File History of U.S. App. Ser. No. 15/986,569.

1016	Firtman, M., “ <i>Programming the Mobile Web, Second Edition</i> ”, O’Reilly (2013).
1017	U.S. Pat. App. Pub. 2009/0247140 (“ Gupta ”).
1018	Plaintiff’s Preliminary Identification of Terms and Phrases for Construction and Preliminary Proposed Constructions, <i>Attentive Mobile Inc. v. Stodge Inc. d/b/a Postscript</i> , Case No. 1-23-cv-00087 (D. Del. Served September 29, 2023).
1019	RFC 5724, “URI Scheme for Global System for Mobile Communications (GSM) Short Message Service (SMS)”, January 2010.
1020	WO 2005/062596A1 (“ Helkio ”).
1021	Flanagan, D. “ <i>JavaScript: The Definitive Guide, Sixth Edition</i> ”, O’Reilly Media, Inc. (2011).
1022	Complaint for Patent Infringement in <i>Attentive Mobile Inc. v. Stodge Inc. d/b/a Postscript</i> , Case No. 1-23-cv-00087 (D. Del. Filed Jan. 25, 2023).
1023	Scheiner, M., <i>Attentive Gets the Message Out</i> , available at https://crm.org/news/attentive-gets-the-message-out
1024	Levine, B., <i>Led by TapCommerce founders, startup Attentive launches SMS/MMS marketing platform</i> , available at https://martech.org/led-tapcommerce-founders-startup-attentive-launches-smsmms-marketing-platform/
1025	Ha, A, <i>TapCommerce’s founders are back with Attentive</i> , a messaging startup that’s raised \$13M, available at https://techcrunch.com/2018/02/08/attentive-launch/
1026	United States District Courts — National Judicial Caseload Profile, available at https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprofile0630.2023.pdf
1027	Scheduling Order in in <i>Attentive Mobile Inc. v. Stodge Inc. d/b/a Postscript</i> , Case No. 1-23-cv-00087 (D. Del. March 8, 2023), together with schedule stipulation of August 31, 2023.

1028	Mobile Marketing Association, “US Consumer Best Practices for Messaging”, version 7.0, (2012), available at https://www.mmaglobal.com/documents/us-consumer-best-practices .
1029	317 Labs, Inc. d/b/a Emotive’s and Stodge Inc. d/b/a Postscript’s Joint Proposed Claim Terms and Constructions, <i>Attentive Mobile Inc. v. Stodge Inc. d/b/a Postscript</i> , Case No. 1-23-cv-00087 (D. Del. Served September 29, 2023).
1030	Excerpt from Amazon.com available at https://www.amazon.com/Serving-Technology-Understand-revelation-commercialized/dp/1484867572/
1031	Excerpt from Google Books available at https://www.google.com/books/edition/Ad_Serving_Technology/PHNHnwEACAAJ?hl=en
1032	U.S. Pat. App. Pub. 2014/0379482 (“ Demsey ”).
1033	RFC 3986, “Uniform Resource Identifier (URI): Generic Syntax”, January 2005.
1034	U.S. Pat. App. Pub. 2013/0111328 A1 (“ Khanna ”).

Petitioner respectfully requests *inter partes* review under 35 U.S.C. §311 of claims 15-30 of U.S. Pat. No. 11,416,897 (“the ’897 patent”).

NOTICE OF LEAD AND BACKUP COUNSEL

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NOTICE OF THE REAL-PARTIES-IN-INTEREST

The real-party-in-interest for this petition is the Stodge, Inc. d/b/a Postscript.

NOTICE OF RELATED MATTERS

The ’897 patent has been asserted in the following litigations:

- *Attentive Mobile Inc. v. 317 Labs, Inc. d/b/a Emotive*, Case No. 1-22-cv-01163 (D. Del. Filed Sep. 01, 2022).
- *Attentive Mobile Inc. v. Stodge Inc. d/b/a Postscript*, Case, No. 1-23-cv-00087 (D. Del. Filed Jan. 25, 2023).

NOTICE OF SERVICE INFORMATION

Please address all correspondence to the lead counsel at the addresses shown above. Petitioner consents to electronic service by email at: smith@smithbaluch.com, baluch@smithbaluch.com.

GROUND FOR STANDING

Petitioner hereby certifies that the '897 patent is available for *inter partes* review, and that the Petitioner is not barred or estopped from requesting an *inter partes* review on the grounds identified in the petition.

STATEMENT OF PRECISE RELIEF REQUESTED

Petitioner respectfully requests that claims 15-30 of the '897 patent be canceled based on the following Grounds:

Ground 1: Claims 15-19 and 21-30 were obvious over Oliver in view of Agrawal and Molinet.

Ground 2: Claims 15-30 were obvious as in Ground 1, in further view of *Ad Serving Technology*.

THRESHOLD REQUIREMENT FOR INTER PARTES REVIEW

As shown in the Grounds set forth below, the information presented in the instant petition, if un rebutted, demonstrates that “it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” 35 U.S.C. § 314(a).

I. INTRODUCTION¹

A. Technical Background

The '897 patent is directed to a known business method, implemented using

¹ This introduction reflects the understanding of a person having ordinary skill in the art (“PHOSITA”), and is therefore relevant to each of the Grounds below.

known Internet advertising technology.

The known business method of the '897 patent is simple. By the time the first application leading to the '897 patent was filed (May 2017), smartphones had been in widespread use for almost a decade. (Ex. 1002, ¶24). With the rise of smartphone use, text-based messaging (*e.g.*, “SMS” messaging) became a primary form of communication. (Ex. 1002, ¶24). This form of communication was naturally adopted by advertisers, who wanted to send advertising texts to consumers. (Ex. 1002, ¶24).

Advertising texts, however, could be subject to restrictions that required an advertiser to both obtain a user’s consent and provide proof of possession of a smartphone prior to sending advertising texts. (Ex 1001, 7:14-24)(Ex. 1002, ¶24). To prove both consent and possession of the phone, it was by 2012 considered a best practice to request, in an advertisement, that a user sign up for text messages by sending a text to the advertiser. (Ex. 1002, ¶¶25-26)(Ex. 1028, pp. 008-009, 0015-0021). For example, the 2012 Mobile Marketing Association document *U.S. Consumer Best Practices for Messaging* provided the following example of a best practice for advertising urging a user to text an advertiser:

Call to Action:

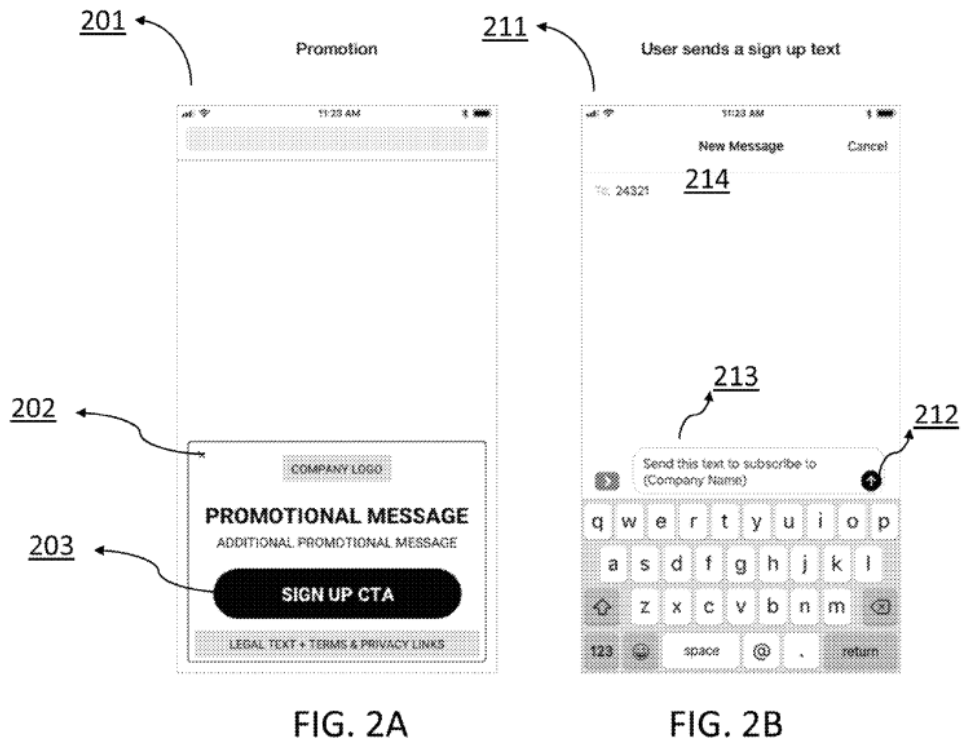
The following is advertised:

Program sponsor →	Upmobile Ski Alerts!
Service Description →	Send us the resort name, we'll send you the snow conditions. Txt 'Mammoth' to 12345 to receive an alert for Mammoth Resort.
Additional Carrier Costs →	Msg&Data Rates May Apply.
Terms & Conditions →	T&Cs avail at www.mammoth.com/mobile .

(Ex. 1028, p. 016)(Ex. 1002, ¶25).

Against a background of such standard marketing practices, the '897 purports to add known technology that allowed a device to *automatically* draft a text message (rather than asking a user to write it). (Ex. 1002, ¶27). The process starts with a Web advertisement that, instead of encouraging a user to type and send a text, encourages a user to click on a *link*. (Ex. 1001, 6:60-7:2)(Ex. 1002, ¶27). Clicking the link on a smartphone causes the device's text-messaging app to open. (Ex. 1001, 6:60-7:2)(Ex. 1002, ¶27). The text-messaging app presents the user with a pre-filled text message. (Ex. 1001, 7:7-11)(Ex. 1002, ¶27). The message provides both a destination telephone number and a message body, such that the user need only click "send" to send the text. (Ex. 1001, 7:10-22)(Ex. 1002, ¶27). When sent (to a designated server), the text message signs a user up for a promotion, such as a further promotional message. (*Id.*).

The process is shown in Figs. 2A-2B of the '897 patent:



(Ex. 1001, Figs. 2A-2B)(Ex. 1002, ¶28). These figures show an ad with a link 203 (Fig. 2A) that when clicked opens a pre-populated text message (Fig. 2B). (Ex. 1001, 7:24-59)(Ex. 1002, ¶28). The user need only click the send button (212) to send the text and sign up to receive marketing texts. (*Id.*). Thus, the user only needs to take *two actions* to sign up: clicking the link and then clicking the “send” button. (Ex. 1001, 6:60-7:66)(Ex. 1002, ¶28). Because only two actions are required, the ’897 patent refers to this approach as a “two-tap” approach. (Ex. 1001, 3:1-3, 7:19-23)(Ex. 1002, ¶28).

The “two-tap” approach, according to the Patent Owner, was a “true leap” forward in the technology. (Ex. 1014, p. 2)(Ex. 1002, ¶29). Prior art technologies were allegedly too cumbersome: requiring detailed sign-up forms or requiring the

user to accurately type out a text message and respond to a confirming text. (*Id.*)(Ex. 1001, 1:30-41). The “two-tap” approach avoided potential mistakes in typing a text message and provided a record of consent with a single message. (Ex. 1014, p. 2).

Whatever the merits of the “two-tap” approach, however, the Patent Owner was not the first to do it. (Ex. 1002, ¶30). For example, U.S. Pat. App. Publication 2015/0178784 to “**Oliver**”, the subject of Ground 1, teaches a two-tap method where a consumer accesses a “passive entity” associated with an advertisement. (Ex. 1011, ¶¶0034, 0007)(Ex. 1002, ¶¶31-33). The “passive entity” is sometimes a scannable QR code, but Oliver makes clear that a passive entity can be anything that can store link information and be activated by a user’s mobile device. (Ex. 1011, ¶0007, Abstract). Activating the passive entity creates a pre-populated text message, such as the one shown in Fig. 2 of Oliver, reproduced at right.

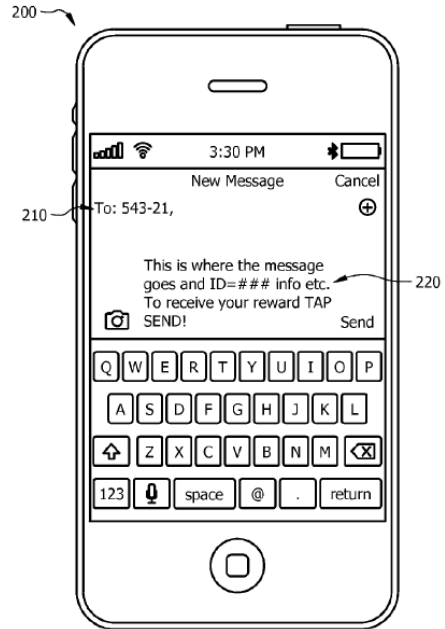


FIG. 2

(Ex. 1011, Fig. 2, ¶¶0027-0029)(Ex. 1002, ¶¶31-32). The pre-populated text message is created using a link in the passive entity, such as the link shown in ¶0028 of Oliver:

[0028] smsto: 543-21: This is where the message goes
and ID=### info etc. To receive your reward TAP
SEND!

(Ex. 1011, ¶¶0028, *see also* 0027-0029)(Ex. 1002, ¶31).

Oliver explains—just like the '897 patent—that limiting the user actions to two improves the user response:

“the disclosed principles **streamline the response process** by simply requiring **only two actions** by the user: the scan or other means of activating the passive entity, **and the action of sending** the prepopulated message generated by the activation of the passive entity.”

(Ex. 1011, ¶0009)(Emphasis added)(Ex. 1002, ¶33).

Other prior art references, including Haggerty (Ex. 1007), Hsu (Ex. 1013) and Gupta (Ex. 1017) teach similar two-tap methods. (Ex. 1007, Abstract, 2:28-31, 10:1-5, 11:19-21, 9:48-55, 13:12-18, 1:53-62)(Ex. 1013, ¶¶0039-0042)(Ex. 1017, ¶¶0026, 0069, 0088)(Ex. 1002, ¶¶31-40).

Central to these two-tap references was the ability to create links that could, when selected, open a pre-populated a text message—technology that had long been available. (Ex. 1012, pp. 584-585)(*e.g.*, Ex. 1011, ¶¶0027-0029)(Ex. 1013, ¶0040)(Ex. 1010, pp. 021-022, 015)(Ex. 1002, ¶¶41-46). Generally speaking, these links fell into the category of *mobile-app linking*. (Ex. 1002, ¶¶41-46). Mobile app linking allowed a link in a webpage, viewed on a smartphone browser, to open a different mobile app. (Ex. 1002, ¶41). Such links could simply open the app to the app's opening screen, but they could also link to locations *within* the app, such as a

page describing a specific product. (*Id.*). In that case, such links are called “deeplinks”, because they are directed to a point “deep” within the app. (Ex. 1034, ¶0030)(Ex. 1002, ¶41).

Deeplinking technologies for mobile apps were well-established years before 2017, including the use of Uniform Resource Identifiers (“URIs”) in webpage links to open a pre-populated text-message. (*Id.*). As the textbook “*Programming the Mobile Web*” stated in 2013, “[w]e all like the Short Message Service; that’s why **mobile browsers generally offer the ability to invoke the new SMS window from a link**. To do this, we have two possible URI schemes, sms:// and smsto://.” (Ex. 1016, p. 557)(Emphasis added)(Ex. 1002, ¶¶42-46). These URI schemes were used at the start of a link—so just as a standard web URL might begin with http://, a link to a text-messaging app would begin with sms://. (Ex. 1002, ¶42). The ability to use such URI links was built in to the major smartphone operating systems (iOS and Android) in the relevant timeframe. (Ex. 1002, ¶42)(Ex. 1010, p. 015). These URI schemes were used to pass both the destination phone number and the message body to the text-messaging app (thereby “deeplinking” to the app). (Ex. 1016, pp. 557-558)(Ex. 1013, ¶0040)(Ex. 1011, ¶¶0027-0029)(Ex. 1002, ¶42). An appropriate URI protocol (*e.g.*, “sms:”) to open text-messaging applications with pre-populated text and destination numbers was standardized by the year 2010 in IETF RFC 5724. (Ex. 1002, ¶43)(Ex. 1019, pp. 007-008, §2.2, p. 010, §2.5). The URIs specified in

RFC 5724 could be used in clickable website links, such that when a user clicked on the link, a pre-populated SMS message would appear in the user's text-messaging app. (Ex. 1002, ¶43)(Ex. 1020, pp. 009:33-010:33). Numerous prior art references discussed such URIs. (Ex. 1016, pp. 557-558)(Ex. 1013, ¶0040)(Ex. 1011, ¶¶0027-0029)(Ex. 1020, pp. 009:33-010:33)(Ex. 1010, pp. 015, 021)(Ex. 1002, ¶43).

The claims of the '897 patent also pair the known two-tap business method to standard technology that had been used, *e.g.*, by Internet advertisers. (Ex. 1002, ¶¶47-50). This technology can be explained with a short background. In the early days of the Web, website publishers could contract directly with advertisers, who would provide ads (*e.g.*, "banner ads") to place on a website. (Ex. 1002, ¶¶47-48). The ads usually had links, such that a user who clicked on the ad would be directed to the advertiser's home page. (Ex. 1002, ¶¶47-48).

This system had a variety of limitations. First, most website publishers did not have the expertise to seek out advertisers. (Ex. 1002, ¶49). Only the largest publishers regularly had ads, but even these ads could not be quickly changed, may not have been placed optimally, and could not be targeted to specific users. (Ex. 1002, ¶49). Furthermore, it was difficult to perform accounting tasks like recording the number of views of an ad. (Ex. 1002, ¶49).

To address these concerns, *ad networks* arose. (Ex. 1002, ¶50). Ad networks would contract with website publishers, through a simple, one-time sign-up process,

for the right to place ads on the publisher's site. (Ex. 1002, ¶50). To place ads on a publisher site, ad networks would transmit so-called "ad tags" to publishers. (Ex. 1002, ¶50). The ad tags were placeholder segments of code (*e.g.*, JavaScript) that could be placed into publisher webpages (Dr. Houh provides an explanation of website technology in Ex. 1002, ¶¶51-63). The purpose of an "ad tag" was to allow the ad network to have control over the placement of ads *at the time a page was being viewed*. (Ex. 1002, ¶65). The ad tag would execute when the user viewed a webpage, thereby requesting an ad from the ad-network server. (Ex. 1002, ¶65). The ad-network server would choose an ad in realtime and send the ad back for insertion into the webpage. (Ex. 1002, ¶65). The functionality of ad tags is carried out in the '897 patent by code that the '897 patent calls an "**integration tag**". (Ex. 1001, 5:29-36)(Ex. 1002, ¶115).

The process of using ad tags to retrieve ads while a user was downloading a webpage was advantageous. (Ex. 1002, ¶65). With older technology (no ad tags), an advertiser would only know *which website* would contain the ad, not *which users* would eventually see the ad. (Ex. 1002, ¶65). Having ad tags that execute *when the user views a page*, however, allowed the ad tag to collect information about the *specific user* and the *user's device*, and send this information to the ad-network server. (Ex. 1002, ¶65). This, in turn, allowed the ad-network server to target an ad directly to the *specific user*, formatted correctly for the specific user's device. (Ex.

1002, ¶65). Furthermore, because the publisher did not need to contract directly with advertisers, but only with the ad network, even small publishers could receive ads appropriate for their sites. (Ex. 1002, ¶65).

The '897 patent uses this standard ad-network technology to serve an ad to a user, where the ad has a clickable link that pre-populates a text message. (Ex. 1002, ¶64). How this technology relates to the claim language will be discussed next.

B. Claims of the '897 patent.

Independent claim 15 can be divided into roughly three parts, corresponding to (1) *standard ad-network technology* that uses a script-based ad tag (here, claimed as “means for displaying”), (2) *standard deeplinking technology* that provides a way to link to a text-messaging application (here claimed as a “means for causing”), and (3) the “two-tap” business method. Claim 15 is shown in the table below, with added numbers (15[a] [15b], etc.):

Claim element	Category
“15[a]. A non-transitory processor-readable medium storing code configured to be executed by a processor, the code including instructions configured to cause the processor to:”	Preamble
“[15b] send, from at least one server and to a mobile device requesting and/or a webpage, means for displaying an invitation to subscribe to a text messaging subscription service via a first application;”	Ad-network
“[15c] send, from the at least one server and to the mobile device, means for causing (1) the mobile device to transition from the first application to a second application different from the first application in	Deeplinking

response to the mobile device detecting a first interaction with the invitation, the second application being a messaging application, and”	
“[15d] (2) [means for causing...] the second application to automatically populate a custom text message based on the user data;”	Deeplinking / Business method
“[15e] receive, from the mobile device, the custom text message in response to the mobile device detecting a second interaction with the messaging application; and”	Business method
“[15f] deliver an installment of the text messaging subscription service without receiving an opt-in communication after receiving the custom text message.”	Business method

In claim 15, a “server” (*e.g.*, the central server of an ad network) sends a means for displaying (*e.g.*, an ad tag) to mobile device. The means for displaying is configured to display a promotion (*e.g.*, an ad). This is standard ad-network technology. (Ex. 1002, ¶68). When a user clicks on the ad, a server sends a URI (means for causing) that deeplinks to a mobile app. This is standard deeplinking technology. (Ex. 1002, ¶68). Activating the deeplink causes a pre-filled text-message to appear that provides consent for further marketing activities, as was well-known in the art. (Ex. 1002, ¶68).

C. Examination History of the '897 Patent.

During the examination of the application leading to the '897 patent, the Examiner rejected then-pending claims over prior art not at-issue here. (Ex. 1004, pp. 182-234). The applicant filed an amendment (Ex. 1004, pp. 128-145) that re-wrote the first independent claim, adding limitations that required a *second* mobile

device as well as *third* and *fourth* user identifiers. (Ex. 1004, pp. 130-131). The Examiner then allowed the claims, stating that the Examiner could not locate much of the content of the first independent claim in the prior art, including the second mobile device and third and fourth user identifiers. (Ex. 1004, 047-048). Notably, however, other claims in the application—including *all claims challenged here*—were broader in that they did not require a second mobile device and third and fourth user identifiers.

II. CLAIM CONSTRUCTION

The parties have exchanged proposed claim constructions in related litigations. (Ex. 1018, 1029).

The Board should construe the two means-plus-function terms in claim 15.

A. Claim 15—“means for displaying....”

Claim 15 recites a “means for displaying an invitation to subscribe to a text messaging subscription service via a first application”. The corresponding structure should be construed as **an integration tag configured to cause performance of the claimed functions**. (Ex. 1002, ¶¶73-74). Support for the corresponding structure is described in the '897 patent at Ex. 1001, claim 16, 1:57-64, 5:29-36, 11:54-66, 12:56-65, 14:61-15:13, 17:9-33. (Ex. 1002, ¶74).

B. Claim 15—“means for causing....”

Claim 15 also recites “means for causing” two functions, namely causing the mobile device to (1) “transition... to a second application” and (2) to “automatically

populate a custom text message....”. The corresponding structure should be construed as **a URI deeplinking to a messaging application and configured to cause performance of the claimed functions.** (Ex. 1002, ¶¶75-76). Support for corresponding structure is described in the ’897 patent at Ex. 1001, claim 16, 2:3-6, 2:14-19, 3:13-15, 4:20-26, 3:59-62, 10:22-47, 11:37-41, 19:24-28, 19:44-49, 22:1-18, 22:36-53, 22:65-67, 23:22-28, 23:51-59. (Ex. 1002, ¶76).

III. DETAILED EXPLANATION OF THE REASONS FOR UNPATENTABILITY

Ground 1. Claims 15-19 and 21-30 were obvious over Oliver in view of Agrawal and Molinet.

Claims 15-19 and 21-30 were obvious under post-AIA 35 U.S.C. §103(a) over U.S. Pat. App. Pub. 2015/0178784 (“**Oliver**”)(Ex. 1011) in view of U.S. Pat. No. 8,015,615 (“**Agrawal**”)(Ex. 1005) and U.S. Pat. App. Pub. 2016/0142858 (“**Molinet**”)(Ex. 1009).

Agrawal and Molinet were not of record during the prosecution of the application leading to the ’897 patent. Oliver *was* of record, but was not used in a rejection, and the application Examiner fundamentally misunderstood Oliver’s teachings, as discussed below in §V.A.

A. Prior Art Status

Oliver, Agrawal, and Molinet are U.S. patent publications with publication

and effective filing dates before May 26, 2017, and are thus prior art under post-AIA 35 U.S.C. §§102(a)(1) and (2).

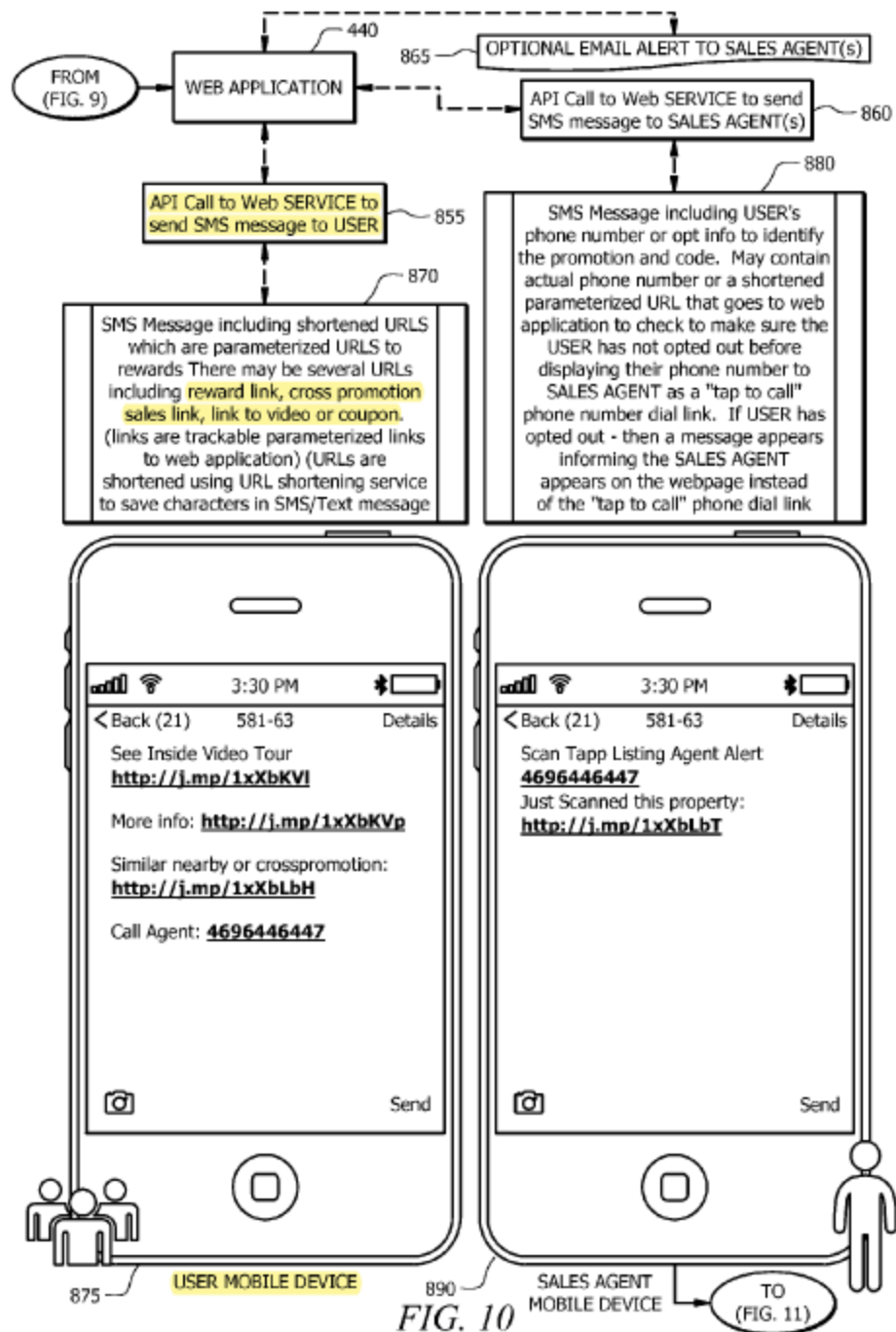
B. Overview of the Ground

Oliver teaches a “two-tap” method for enrolling users in promotions, where a single user action opens a pre-filled text message, which then only needs to be sent. This ground posits that it would have been obvious to implement Oliver’s business method using well-known ad-serving technology, as described in two publications: Agrawal and Molinet. (Ex. 1002, ¶78).

1. Overview of Oliver

Oliver teaches a streamlined method of generating customer leads using a “two-tap” method, as discussed in the Introduction. (Ex. 1011, Title, ¶0009)(Ex. 1002, ¶79).

After the two-tap method is performed, Oliver also teaches that the user receives responsive messages offering discounts, rewards, incentives, etc., as shown in Fig. 10 of Oliver, reproduced here with relevant highlighting added:



(Ex. 1011, Fig. 10, ¶¶0051-0053)(Ex. 1002, ¶82).

While Oliver teaches that the user interacts with an advertisement, and teaches that the advertisement can be on the Internet, Oliver does not concern itself with the

technology to deliver ads to a user on the Internet. This standard technology, however, was disclosed in **Agrawal**.

2. Overview of Agrawal

Agrawal teaches a known ad-network system. (Ex. 1002, ¶84). Ad-network systems were described in the Introduction, and generally have a *central ad-network server* to coordinate activities, *advertisers* who wish to place ads, *publishers* who have servers that serve websites on which ads can be placed, and *users* who download the websites and see the ads. (Ex. 1002, ¶84). Such a system is shown in Fig. 1 of Agrawal, reproduced here:

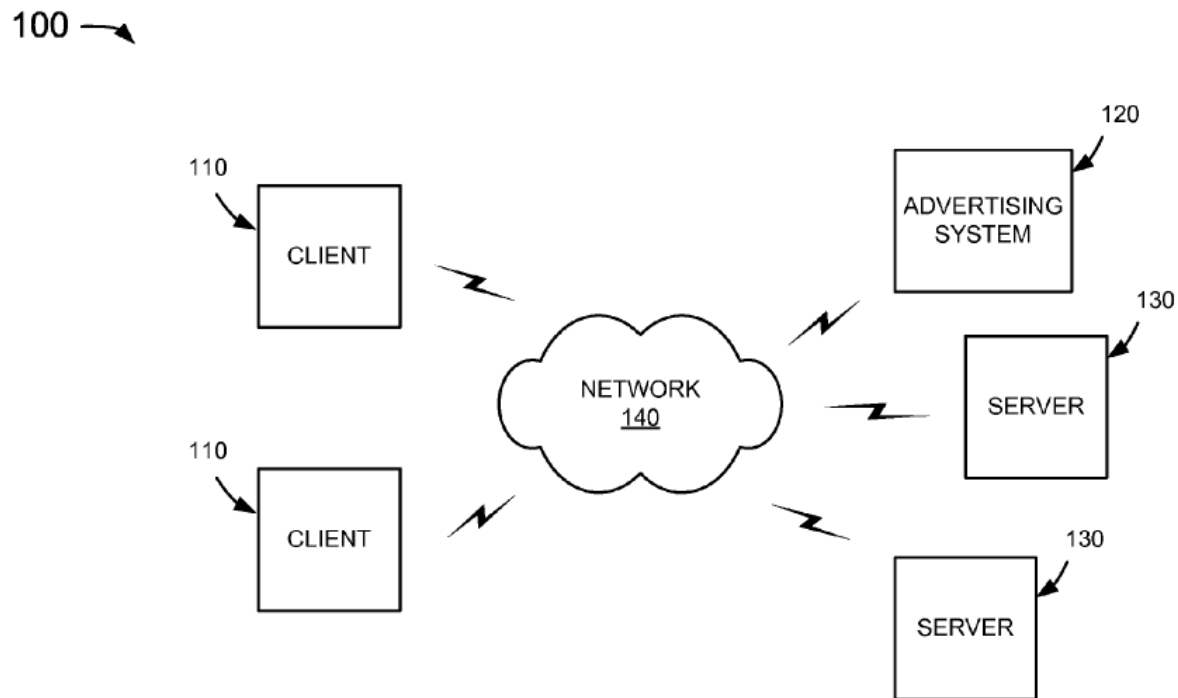


FIG. 1

(Ex. 1005, Fig. 1, 3:62-35)(Ex. 1002, ¶84). In Fig. 1, the central ad-network server is the “advertising system 120”. (Ex. 1005, 1:62-65, 10:5-6)(Ex. 1002, ¶84). The users are the “client” devices 110. (Ex. 1005, 4:10-16)(Ex. 1002, ¶84). The various publishers of webpages are represented by servers 130. (Ex. 1005, 4:18-20)(Ex. 1002, ¶84). Advertisers are not shown separately in Fig. 1.

In Agrawal’s system, a user’s device will contact a publisher server 130 to download a webpage. (Ex. 1005, 5:29-32, 3:46-58)(Ex. 1002, ¶85). The webpage has code (*e.g.*, JavaScript) that is executed when the user’s device loads the webpage. (Ex. 1005, 5:34-39, 3:52-55)(Ex. 1002, ¶85). Upon execution of the code, the user’s browser sends to the advertising system 120 an “ad query request”. (Ex. 1005, 5:29-39)(Ex. 1002, ¶85). Along with the ad query request, the browser also sends data about the user and the device to the advertising system 120. (Ex. 1005, 5:64-6:46)(Ex. 1002, ¶85). The advertising system 120 stores the user data, selects one or more ads, and sends the ads back to the browser for display. (Ex. 1005, 5:45-63, 7:54-58)(Ex. 1002, ¶85). The ads will typically have links that the user can click, as shown in Fig. 4 of Agrawal, reproduced here:

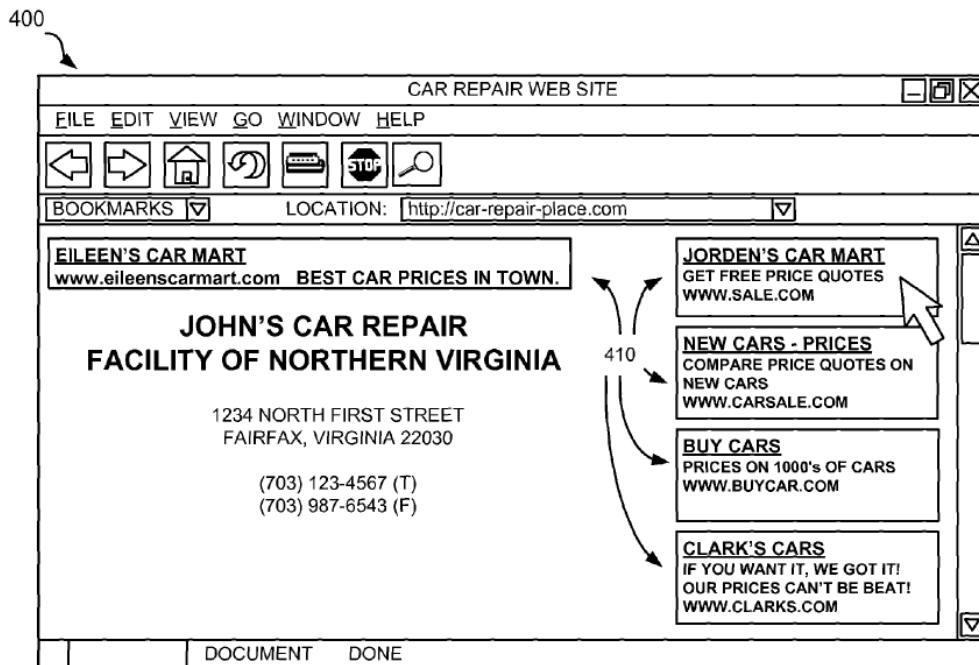


FIG. 4

(Ex. 1005, Fig. 4, 8:12-37)(Ex. 1002, ¶85).

Agrawal also has an authentication mechanism that is relevant to the '897 patent dependent claims. Authentication is needed in Agrawal because, if the user clicks an ad link, the ad will be deemed successful and someone will get paid. (Ex. 1005, 1:27-2:3)(Ex. 1002, ¶86). This potential for payment, however, also creates an incentive for fraud: a malicious user might use bots to generate clicks that are not from a human user. (*Id.*). To filter out such spurious clicks, Agrawal also collects user data *a second time* after an ad link is clicked. (Ex. 1005, 6:47-7:62)(Ex. 1002, ¶86). By comparing the *second set* of user data to the *first set* of user data (collected earlier), Agrawal can authenticate the user, and prevent some fraud. (Ex. 1005, 7:45-8:12)(Ex. 1002, ¶86). This process is shown in Fig. 3 (reproduced

below), which shows a method carried out by the advertising system 120 (Ex. 1005, 5:3-8, 10:4-7):

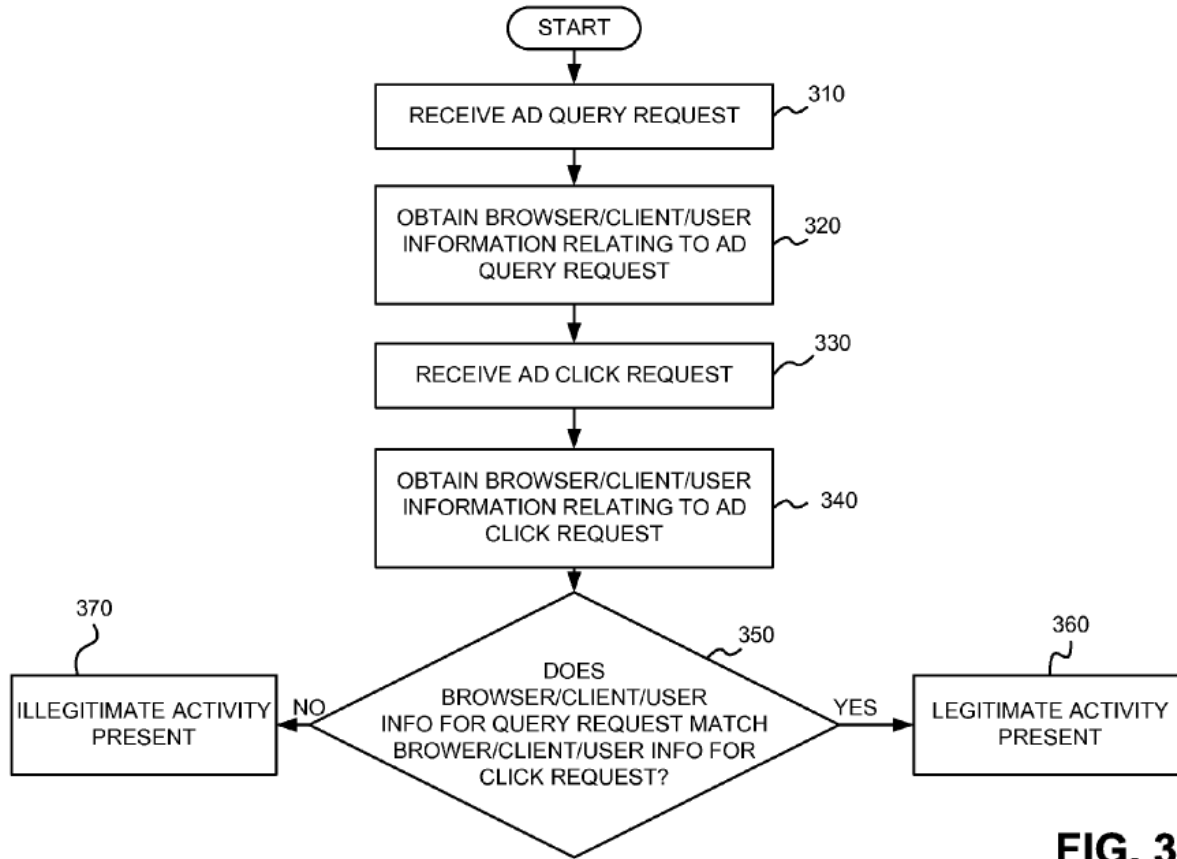


FIG. 3

(Ex. 1005, Fig. 3)(Ex. 1002, ¶86).

Agrawal does not expressly teach that its advertising links can be “deeplinks” that would open mobile apps, but this functionality was well-known in the relevant timeframe and provided by another patent publication, **Molinet**.

3. Overview of Molinet

Molinet teaches a system for providing working deeplinks for mobile apps. (Ex. 1009, ¶0003)(Ex. 1002, ¶88). Molinet explains that in an “application

ecosystem” (like a modern smartphone), deeplinks might not be standardized. (Ex. 1009, ¶0005)(Ex. 1002, ¶88). This created a situation where applications had difficulty linking to specific locations, pages, screens *within* applications (*i.e.*, deeplinking). (Ex. 1009, ¶0005)(Ex. 1002, ¶88). The desired deeplinking was not easily accomplished in the prior art to Molinet because, as Molinet explains, different mobile devices might use different deeplinking protocols. (Ex. 1009, ¶0005)(Ex. 1002, ¶88).

To address this situation, Molinet provided a system that facilitates deeplinking. (Ex. 1009, ¶¶0101-0107, Fig. 5, ¶¶0079-0082)(Ex. 1002, ¶89). The system takes a desired target within an app, and produces a URL (a kind of URI) to represent that target location. (Ex. 1009, ¶¶0072, 0025-0026, 0033)(Ex. 1002, ¶89). The URL could be used in a normal, clickable Web link. (Ex. 1009, ¶¶0026, 0033, 0072, 0088, 0102)(Ex. 1002, ¶89). When clicked, the link caused a request to be sent to Molinet’s *contextual deeplinking server*. (Ex. 1009, ¶¶0101-0107, Fig. 5, ¶¶0074-0082)(Ex. 1002, ¶89). This server, in turn, accessed information about the user’s device. (Ex. 1009, ¶¶0103-0106, Fig. 5, ¶¶0074-0079)(Ex. 1002, ¶89). With this information, Molinet’s server formulated a contextually-appropriate deeplink URL (*i.e.*, a deeplink URL that worked with the user’s device), and sent that URL back to the mobile device, which then used the deeplink to cause the device to transition to a particular state within a different application. (Ex. 1009, ¶¶0082,

0107, 0033, 0036, 0016-0018, Fig. 5)(Ex. 1010, pp. 008-011)(Ex. 1002, ¶89). The interdiction of the server in the linking process thus ensured that the link will work on any given device. (Ex. 1009, ¶0119)(Ex. 1002, ¶89).

C. Rationale (Motivation) Supporting Obviousness²

It would have been obvious to implement Oliver's business method by presenting Web links in Internet ads, using an ad system such as Agrawal's, and to augment such an ad system with Molinet's techniques to deeplink to mobile applications. (Ex. 1002, ¶90).

First, it was obvious to implement Oliver's method using the system of Agrawal (as augmented by Molinet). (Ex. 1002, ¶91). Oliver's method would have appealed to businesses seeking a streamlined method for acquiring the contact information of potential customers, and for acquiring the potential customer's consent to receive marketing communications and proof of possession of the mobile device. (Ex. 1011, ¶¶0004-0006, 0009)(Ex. 1002, ¶91).

A PHOSITA would have found the combination of Oliver with the system of Agrawal/Molinet advantageous. (Ex. 1002, ¶92). Specifically, a PHOSITA would have desired to enhance the reach of Oliver's ads by using a Web advertising system such as Agrawal's, which allows ads to be targeted at users likely to find the subject

² The Overview (§B) and Introduction (§I) are relevant to this section.

matter appealing. (Ex. 1005, 5:45-63)(Ex. 1002, ¶92). To make use of Agrawal in Oliver's business method, a PHOSITA would have found it obvious to use the concept of mobile app deeplinks that pre-populated text messages (like Oliver's) as links (*e.g.*, links 410) in Agrawal's web ads. (Ex. 1005, 8:20-44)(Ex. 1011, ¶¶0027-0029)(Ex. 1002, ¶92). Oliver already suggests this, by stating the "passive entity" that contains the link can be essentially anything with which a mobile device can interact. (Ex. 1011, Abstract, ¶¶0007, 0035, 0033, 0048)(Ex. 1002, ¶92). Oliver further teaches that passive entities can be incorporated into advertising (¶0034), can be incorporated into "electronic visual media" on the Internet, (¶0034), and encode links configured to open a text-messaging application and pre-populate a text message. (Ex. 1011, ¶¶0027-0029)(Ex. 1002, ¶92). A PHOSITA would have recognized that Agrawal's system provides electronic visual media in the form of advertisements, and advertisements have links that use URIs. (Ex. 1005, 8:20-44, Fig. 4, 1:18-26)(Ex. 1002, ¶92). A PHOSITA further would have found Agrawal's authentication system advantageous to carry out Oliver's express desire to authenticate the user and impose limits on the user's access to promotions. (Ex. 1011, ¶0047)(Ex. 1002, ¶92).

Second, it would have been obvious to augment Agrawal's system with Molinet's capabilities. (Ex. 1002, ¶93). Specifically, a PHOSITA would have understood that mobile-app deeplinking protocols could differ between mobile

operating environments (Ex. 1009, ¶¶0005)(Ex. 1002, ¶93), and would have desired Molinet’s ability to “create a contextual deep link that does not cause an error under any context”, and to allow apps to use and manipulate links easily, independent of context. (Ex. 1009, ¶¶0119-0121)(Ex. 1010, p. 001)(Ex. 1002, ¶93). A PHOSITA would have desired to allow users to click links in webpages to link to mobile apps (which Molinet teaches, Ex. 1009, ¶¶0026, 0033), such that advertisements could link directly to the advertiser’s app, or to a communication app for communicating directly with the advertiser, without fear of generating an error. (Ex. 1009, ¶0119)(Ex. 1002, ¶93).

Furthermore, Agrawal and Molinet are similar and fit easily together: both use Web-based technologies and communications with a central server to dynamically alter a user’s Web experience. (Ex. 1005, 5:29-63, 7:54-58)(Ex. 1009, ¶¶0072-0082, 0101-0107)(Ex. 1002, ¶94). Agrawal uses code on a webpage to collect user information and issue an ad request to a central server, which then returns an advertisement that is inserted into the webpage. (Ex. 1005, 5:29-63, 7:54-58)(Ex. 1002, ¶94). Similarly, Molinet uses code on a webpage to collect user information and, when a link is clicked, issue a deeplinking request to a central server, which then returns a contextually-appropriate deeplink. (Ex. 1009, ¶¶0016-0018, 0025-0026, 0033, 0072-0082, 0101-0107)(Ex. 1002, ¶94). Both references express flexibility in how their systems are configured, and in particular where and

how algorithmic steps are carried out. (Ex. 1005 4:3-9, 4:28-35, 4:28-57, 10:14-42)(Ex. 1009, ¶¶0122-0131, 0019, 0014, 0097, 0108)(Ex. 1002, ¶94). Given the technical compatibility and similarity between the two references and their own expressed flexibility, it would have been obvious to a PHOSITA to practice Molinet's techniques in Agrawal's system. (Ex. 1002, ¶94).

In particular, it would have been obvious to carry out the server-based software techniques of Oliver and Molinet at Agrawal's Advertising System 120. (Ex. 1002, ¶95). Agrawal teaches that its server functionality can be expanded with other server-based functions. (Ex. 1005, 4:15-35, 9:62-10:13)(Ex. 1002, ¶95). Each of Oliver and Molinet, moreover, provides functionality with a server (like Agrawal's advertising system), in the form of Molinet's contextual deeplinking server and Oliver's Web service 430. (Ex. 1009, Fig. 1, Abstract, ¶¶0016-0018)((Ex. 1011, ¶0031)(Ex. 1002, ¶95). Both Molinet and Oliver also express flexibility in the arrangement of their systems. (Ex. 1009, ¶¶0122, 0127)(Ex. 1011, ¶¶0101, 0031, 0025, 0033, 0036)(Ex. 1002, ¶95). It would have been obvious to combine the functionalities of these references into a single "server" as that term is understood in the '897 patent (Ex. 1001, 4:13-42. 5:14-47) in order to obtain the benefits of each system as described above. (Ex. 1002, ¶95).

The combination further would have been obvious under *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417-21 (2007), as the application of known techniques

(Molinet and Oliver), for their known functions, in order to improve Agrawal, with no unpredictable results. (Ex. 1002, ¶¶95-96).

D. *Graham* Factors

This discussion of *Graham* factors applies to all grounds.

The **level of ordinary skill** encompassed a person having a Bachelor's Degree in computer science and three years of experience in Web-based programming methods, where a higher level of education may substitute for experience and vice-versa. (Ex. 1002, ¶70).

The **scope and content of the prior art** are discussed throughout the Ground.

The **differences between the prior art and the claims** are discussed in the section entitled "Rationale (Motivation) Supporting Obviousness", above, and in the claim mapping, below.

Secondary considerations are discussed in §IV, below.

E. Reasonable Expectation of Success

A PHOSITA in the relevant timeframe would have had a reasonable expectation of success in using the prior art in the manner discussed in this petition. (Ex. 1002, ¶101). As Dr. Houh explains, the methods of the prior art are implemented in software, are compatible, and were predictable in the relevant timeframe (May 2017). (Ex. 1002, ¶101). A PHOSITA would have been able to make any necessary modifications to implement the Ground, and in particular would

have been able to implement Molinet’s software techniques in Agrawal’s system, and then to carry out Oliver’s method. (Ex. 1002, ¶101).

F. Analogous Art

Oliver, Agrawal, Molinet are analogous art because they are in the same field as the ’897 patent (Internet and mobile device technology). (Ex. 1001, 1:24-29)(Ex. 1005, 1:10-50)(Ex. 1009, Abstract, ¶¶0003-0005)(Ex. 1011, Abstract, ¶¶0027-0033, Figs. 4, 8-10)(Ex. 1002, ¶102). Furthermore, the methods of Oliver, Molinet and Agrawal as described above would have been reasonably pertinent to the problems facing the named inventors, for example, the problems of providing an application deeplinking system and a more convenient text-message signup process. (Ex. 1001, 1:42-46)(Ex. 1002, ¶102) *See Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010)(“The Supreme Court’s decision in *KSR* [cite omitted], directs us to construe the scope of analogous art broadly....”).

G. Claim Mapping

This section maps the challenged claims to the relevant disclosures of the prior art, where the claim text appears in bold-italics, and the relevant mapping follows the claim text. The Petitioner has added numbering and lettering in brackets (*e.g.*, 1[a], [1b]) to certain claim elements, to facilitate the discussion. Each mapping for a (narrower) dependent claim also applies to the claim limitation of a superior claim that is being narrowed.

CLAIM 15

“15[a]. A non-transitory processor-readable medium storing code configured to be executed by a processor, the code including instructions configured to cause the processor to:”

The combination renders obvious the preamble via Agrawal’s advertising system 120, shown in Fig. 1 of Agrawal, reproduced below with an added red-dashed box:

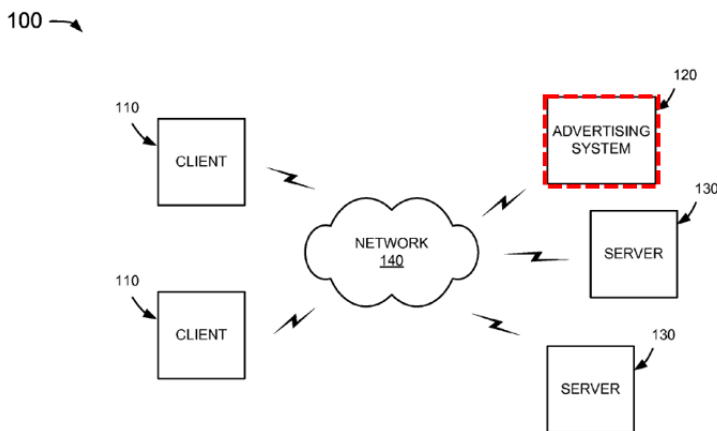


FIG. 1

(Ex. 1005, Fig. 1)(Ex. 1002, ¶104).

The advertising system 120 has a **processor 220** with **at least one non-transitory processor-readable medium** (ROM 240 and storage device 250) **storing code configured to be executed by the processor**. (Ex. 1005, 4:39-57, Fig. 2, 10:18-34)(Ex. 1002, ¶105).

For the reasons described above in the section entitled “Rationale (Motivation) for the Combination”, it would have been obvious to arrange the **code**

of the advertising system 120 to **include instructions configured to cause the system** to perform the functions recited in each of the claim limitations below. (Ex. 1002, ¶106).

“[15b] send, from at least one server and to a mobile device requesting and/or a webpage, means for displaying an invitation to subscribe to a text messaging subscription service via a first application;”

The combination renders this element obvious. (Ex. 1002, ¶107).

(a) means for displaying an invitation to subscribe to a text messaging subscription service via a first application

The combination renders obvious a mobile device with a **means for displaying an invitation to subscribe to a text messaging subscription service via a first application**. (Ex. 1002, ¶108). In Agrawal, the **means for displaying** is code executed by the user’s browser on a mobile device. (Ex. 1005, 5:29-39, 4:10-15)(Ex. 1002, ¶108). This code is used to generate an advertisement query request that results in the display of an advertisement. (Ex. 1005, 5:29-39)(Ex. 1002, ¶108).

Agrawal explains:

“In one implementation, the advertisement query request may be generated in response to a user accessing a document, such as a web page, with which advertising links are associated. For example, if a user accesses a document that provides advertising links, an advertisement query request may be generated when the user requests access to the document. In one implementation, the

advertisement query request may be automatically generated via the browser used by client 110. **The browser may execute a piece of code, which may cause the advertisement query request to be generated** in response to client 110's request for the document.”

(Ex. 1005, 5:29-39)(Emphasis added)(Ex. 1002, ¶108). Here, the referenced “browser” is a **first application** on a user device that interprets webpages accessed by the user, including ads on those pages. (Ex. 1005, 1:18-24, 5:64-6:3, 7:1-3, 8:13-37, Figs. 1 and 4). The code (**means for displaying**) that generates the advertisement query request can be, for example, JavaScript instructions. (Ex. 1005, 3:53-59)(Ex. 1002, ¶108)(Ex. 1006, 026:8-32, 027:10-16, 027:17-028:31, 029:1-5, 029:11-030:1-9, 030:28-30, Figs. 8, 9A-9C).³ The code is an integration tag (per the construction of “means for displaying”) because it is code that carries out the functions of an integration tag in the '897 patent, as explained below. (Ex. 1001, 5:29-36)(Ex. 1002, ¶108).

The code (**means for displaying**) causes the generation of an advertisement

³ Citations to Ex. 1006 are to an application (“the '900 application) incorporated-by-reference into Agrawal at Ex. 1005, 5:58-63). Such citations are in the format {page}:{lines}, with {page} indicating the three-digit numbers (bottom) added per 37 C.F.R. §42.64(d)(2)(i).

query request to the server, which sends back an ad for display within the webpage. (Ex. 1005, 3:11-19, 5:25-63)(Ex. 1002, ¶109). Ads displayed within the webpage are shown as ads 410 in Fig. 4, reproduced here:

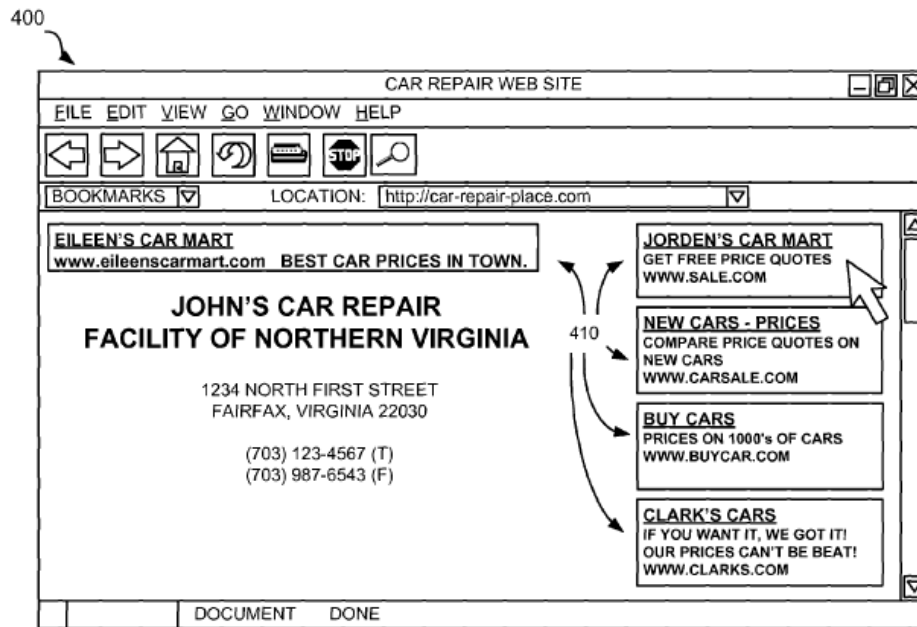


FIG. 4

(Ex. 1005, 8:13-33)(Ex. 1002, ¶109).

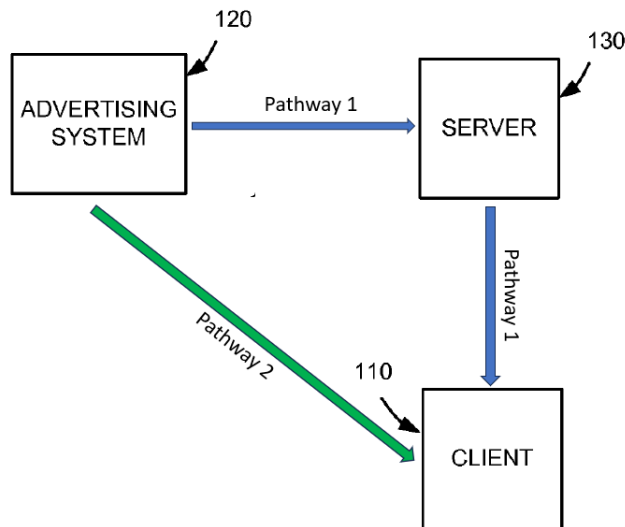
It would have been obvious to display an advertisement containing **an invitation to subscribe to a text messaging subscription service**. (Ex. 1002, ¶110). Oliver expressly teaches providing Web advertisements with a “passive entity” that a user can use to pre-populate a text message. (Ex. 1011, ¶0034)(Ex. 1002, ¶110). The text message can be followed up with the delivery “**by response message or a later time**” of “any type of promotional information”, including coupons, discount codes, entries in sweepstakes, milestones in games, marketing promotions, etc. (Ex. 1011, ¶0025)(Emphasis added)(Ex. 1011, Figs. 8-10, ¶¶0051-

0054)(Ex. 1002, ¶110). Where such benefits are offered, to be provided in subsequent text messages, it would have been obvious to say this in the ad to induce the user to sign up. (Ex. 1002, ¶110). This was a standard advertising technique in the relevant timeframe. (Ex. 1002, ¶110).

Furthermore, the content of an advertisement is “printed matter” that is unrelated to the technical functioning of the alleged invention (Ex. 1002, ¶111), and thus is not a limiting part of the claim. *See In re Distefano*, 808 F.3d 845, 851 (Fed. Cir. 2015).

(b) send, from at least one server and to a mobile device

Agrawal renders obvious that the means for displaying (code) is **sent from at least one server and to a mobile device**. Agrawal renders this obvious in two ways: (1) sending from the advertising system 120 to the website publisher and then to the mobile device (pathway 1), and (2) sending directly to the mobile device (pathway 2), as illustrated in the following diagram created by the Petitioner:



(Ex. 1002, 112).

(b)(i) Pathway 1: advertising system 120 to mobile devices via web servers 130.

Regarding pathway (1), it is first clear that web servers 130 can send the code to mobile devices. (Ex. 1002, ¶113). When the web servers 130 receive a request for a webpage, they then serve the webpage with the code in that page to the mobile devices. (Ex. 1005, 4:16-22, 3:46-58, 5:29-38)(Ex. 1002, ¶113).

Second, Agrawal renders obvious having the advertising system⁴ 120 **send** the code (**means for displaying**) to servers 130, in order to send to mobile devices. This is shown in the '900 application, which Agrawal incorporates by reference. (Ex. 1005, 5:58-63)(Ex. 1002, ¶114). In the '900 application, similar code to be executed by browsers to collect information is “provided to content servers for

⁴ Advertising system 120 is a **server**. (Ex. 1005, 4:16-18)(Ex. 1002, ¶113).

insertion into all their Web pages” from a similar central server. (Ex. 1006, 026:29-32, 011:7-26, 021:6-023:5 (specifically 023:1-5), Fig. 4, Fig. 2)(Ex. 1002, ¶114). To have content servers insert code into their websites, the ’900 application explains that website publishers log on to the ad-network system and *download* a piece of code that enables display of an advertisement. (Ex. 1006, 023:1-6, *generally* 021:6-023:21)(Ex. 1002, ¶114). The downloading is done from the central ad-network server, which in the ’900 application is called the “ad entry, maintenance and delivery system 120”. (Ex. 1002, ¶114)(Ex. 1006, 010:26-29). The teachings of the ’900 application are incorporated by reference into Agrawal and disclose an ad-network system quite similar to Agrawal’s—down to the reference numeral (120) of the central server. (Ex. 1005, 5:58-63, Fig. 1, 3:60-4:35)(Ex. 1006, Figs. 1-2, 010:26-29, 013:21-014:6)(Ex. 1002, ¶114). Thus, Agrawal suggests, via the incorporated ’900 application, to have the central server of the ad system (*i.e.*, advertising system 120) to provide the “code” for insertion into webpages that are eventually downloaded to the mobile device. (Ex. 1002, ¶114).

Beyond teaching this directly, it was also obvious for servers 120 in Agrawal (client servers) to download (**send**) Agrawal’s code (**means for displaying**) from the advertising system 120 (**server**). (Ex. 1002, ¶115). As Dr. Houh explains, having the advertising system 120 (**server**) **send** the **means for displaying** to the publisher server for incorporation into a website would have allowed the code

(means for displaying) to be customized for the requirements of the advertising system 120, which must correctly receive information from the code and operate at scale, with potentially thousands of publishers. (Ex. 1005, 5:64-6:36)(Ex. 1002, ¶115). Implementation of this well-known technique (downloading ad tags from a server) into a well-known ad system (Agrawal's) would have been no more than the combination of familiar elements according to known methods, yielding predictable results, and thus obvious. (Ex. 1002, ¶115). *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007).

(b)(ii) Pathway 2: advertising system 120 directly to mobile devices.

Agrawal also renders obvious sending code directly to mobile devices. Specifically, Agrawal, via the incorporated '900 application, teaches that code can be included in a webpage using a JavaScript link. (Ex. 1006, 028:01-028:31)(Ex. 1002, ¶116). As Dr. Houh explains, this causes the browser to contact the link target (a server) directly to receive the code. (Ex. 1002, ¶116). Agrawal teaches, via the incorporated '900 application, that the JavaScript can be received from the central ad server (*e.g.*, pagead.google.com/ads/), which in Agrawal is the advertising system 120. (Ex. 1006, 026:18-32)(Ex. 1002, ¶116). Thus, it would have been obvious to have the mobile device retrieve the code (means for displaying) directly from the advertising system 120 using a JavaScript link. (Ex. 1002, ¶116). It was additionally obvious for the link to retrieve the code from system 120 for the reasons provided

above under Pathway (1) (Ex. 1002, ¶¶114-116).

Agrawal also makes clear that the servers 130 and the Advertising System 120 and can be combined into a single server. (Ex. 1005, 4:28-35), such that the act of sending from servers 130 to the mobile device alone would also be sending from the advertising system 120 directly to the mobile device. (Ex. 1002, ¶116).

“[15c] send, from the at least one server and to the mobile device, means for causing (1) the mobile device to transition from the first application to a second application different from the first application in response to the mobile device detecting a first interaction with the invitation, the second application being a messaging application, and”

The combination renders this limitation obvious. In brief, when a user clicks on a advertising link in an ad, the functionality of Molinet sends, from a server, a properly-formatted URI (the **means for causing**) which when implementing the business method of Oliver, causes the mobile device to transition from the browser (first application) to a messaging application (second application). (Ex. 1002, ¶117)

(a) in response to the mobile device detecting a first interaction with the invitation

As explained above under limitation [15b], Agrawal teaches displaying advertisements in webpages, where the advertisements have hyperlinks that can be clicked. (Ex. 1005, Fig. 4, 8:13-32)(Ex. 1002, ¶118). The clicking of a link in an ad is a **first interaction with the invitation**. (Ex. 1002, ¶118). The click must be and obviously is **detected by the mobile device**, because the mobile device responds

to the click. (Ex. 1002, ¶118).

(b) send, from the at least one server and to the mobile device, means for causing

As explained above, it would have been obvious to implement the business method of Oliver using mobile ads, by using the web-based deeplinking technology of Molinet. (Ex. 1002, ¶119).

Molinet teaches that a user can interact with a link (URL) in a webpage, causing the browser to send a request to the server. (Ex. 1009, ¶0065)(Ex. 1002, ¶120). The server of Molinet then checks whether it has contextual data for the mobile device, for example, whether the server already has a list of installed applications for the mobile device. (Ex. 1009, ¶¶0074-0082)(Ex. 1002, ¶121). If so, a “contextual response module” at the server chooses an appropriate URL (a type of URI) to send back to the mobile device, which will cause a transition to another mobile app. (Ex. 1009, ¶¶0081-0082)(Ex. 1002, ¶121). Molinet explains:

“In one embodiment, for a client device 120 that supports an application ecosystem, the contextual response module 340 uses the matching contextual information to **determine whether the application 121** that the contextual deep link includes link data for **is installed** on the client device 120....[¶0082]. **If the application is installed**, the contextual response module 340 includes in the response a message that causes the client device 120 to initiate (e.g., open or bring into focus) the application 121 associated with the contextual deep link. For example, **the response may include a**

URL identifying the application 121 that causes the operating system on the client device 120 to initiate the application.”

(Ex. 1009, ¶¶0081-0082)(Ex. 1002, ¶121). The “URL” is simply a more specific form of URI. (Ex. 1002, ¶121). The URI “causes the operating system on the client device 120 to initiate the application”, which in the case of the combination, is the messaging application. (Ex. 1011, ¶¶0051-0054, Fig. 10)(Ex. 1002, ¶121). Thus, the combination renders this limitation obvious. (Ex. 1002, ¶121).

“[15d] (2) the second application to automatically populate a custom text message based on the user data;”

It would have been obvious, for reasons discussed above under the section entitled “Rationale (Motivation) for the Combination”, to implement Oliver’s business method together with Agrawal and Molinet. (Ex. 1002, ¶122).

(a) automatically populate a custom text message

Oliver’s business method includes using application deeplinks to **automatically populate a custom text message based on the user data.** (See, e.g., Ex. 1011, ¶¶0026-0028, 0033, 0037, 0046, 0047). For example, Fig. 2 of Oliver, reproduced below, shows a mobile device 200 with a pre-populated custom text message (in a text-messaging application) having an address 210 and a message body 220:

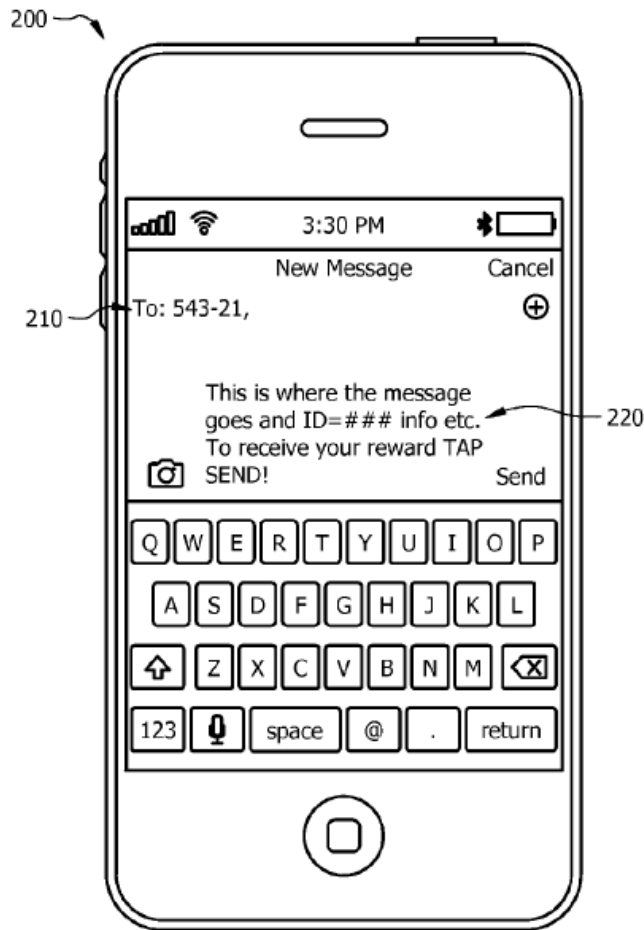


FIG. 2

(Ex. 1011, Fig. 2, ¶¶0027-0030, 0012)(Ex. 1002, ¶123).

Oliver explains that the pre-populated text message arrives from a mobile-app deeplink in a format exemplified as: “Smsto: 543-21: This is where the message goes and ID=# info etc. To receive your reward TAP SEND.” (Ex. 1011, ¶0028)(Ex. 1002, ¶124). Similar approaches were well-known as ways to deeplink to an SMS (text-messaging) application. (Ex. 1002, ¶124)(citing Ex. 1016, p. 584). Oliver teaches that when the deeplink is activated, a “pre-coded message body 220 and destination number or short code 210 will populate the user’s screen 200 using the

device's SMS application" and that this information is "**automatically**" prepopulated and the resulting message "**automatically generate[d].**" (Ex. 1011, ¶¶0029, 0026, 0027)(Ex. 1002, ¶124). It would have been obvious to use deeplinks (such as smsto: or sms: links) as the Molinet URLs, because links of this type were already available and functional in the most-common mobile operating systems. (Ex. 1002, ¶124)(Ex. 1016, p. 557)(Ex. 1010, pp. 015, 021). When used in that manner, the Molinet URL (a URI) is the **means for causing** that carries out the claimed function. (Ex. 1002, ¶124).

Oliver teaches that the deeplink can be activated by scanning a QR code, but also that it can be activated by any type of "passive entity", including "images" on the Internet. (Ex. 1011, ¶¶0034, 0007, 0024)(Ex. 1002, ¶125). It would have been apparent to PHOSITA that a deeplink, such as the ones used by Oliver, could also be activated by other interactions, as explained in Molinet. (Ex. 1009, ¶¶0027, 0063)(Ex. 1002, ¶125). Using Molinet's techniques to activate a prepopulated text message as taught by Oliver would result in **automatically populating a custom text message based on the user data.** (Ex. 1002, ¶125).

(b) a custom text message based on the user data

It would have been obvious to generate the custom text message based on user data. Petitioner notes here that there is no antecedent basis for "the user data". (Ex. 1002, ¶126).

The combination renders obvious **basing** the automatically-generated text message **on user data** in three ways. First, Oliver teaches that the prepopulated text message can include “user identification information”, “unique identifiers”, “promotional identifiers”, and “any other information”. (Ex. 1011, ¶¶0030, 0037, 0008, Abstract)(Ex. 1002, ¶127). The “user identification information” is **user data**, because it identifies a user. (Ex. 1011, ¶0008, cls. 13, 18)(Ex. 1002, ¶127)(*compare* Ex. 1001, 5:12-17).

Second, it would have been obvious to include Agrawal’s “unique identifier” in the text message. Agrawal explains:

“Each advertising link that is returned in response to the advertisement query request may be associated with an **identifier** that **uniquely identifies the advertising link** for this particular transaction (i.e., for **this particular user’s request** for the **document** and the **provisioning of the document** and associated advertising links.”

(Ex. 1005, 5:39-44)(Emphasis added)(Ex. 1002, ¶128). That is, Agrawal teaches that the advertising system 120 responds to an ad query request by sending to the mobile device a unique identifier that identifies the unique webpage, unique advertising link, and unique user involved in a transaction, and is thus **user data**. (Ex. 1002, ¶128). Agrawal teaches that this same identifier is, in turn, sent from the mobile device back to the advertising system 120 when the link is clicked, stating:

“An advertisement click request may be received in those situations when the user selects one of the advertising links....the advertisement click request may include the unique identifier that is associated with the selected advertising link.”

(Ex. 1005, 6:55-58)(Ex. 1002, ¶128).

It would have been obvious to configure the text-message URL to include Agrawal's unique identifier in the body of the prepopulated text message, based on Agrawal's teaching to send back the unique identifier to the advertising system 120 when the link is clicked (Ex. 1005, 6:55-58), and the suggestion of Oliver to include promotional and user identifiers in the text message (Ex. 1011, ¶0030). (Ex. 1002, ¶129). Furthermore, as explained by Dr. Houh, it would have been obvious to send Agrawal's unique identifier because it would have allowed the system to track the user, webpage and advertisement through the text-based enrollment process. (Ex. 1005, 1:27-33, 3:23-35)(Ex. 1002, ¶129). This would have obviously provided information on which ads and which sites are effective, and also would have provided information necessary for payments between the advertisement system operator, advertisers and publishers, and to limit the number of offers provided to the same user. (Ex. 1005, 1:34-49)(Ex. 1011, ¶¶0045-0047)(Ex. 1002, ¶129).

Third, it would have been obvious to base the text message on “user data” collected by the Agrawal's advertising system 120 (*see* Overview of Agrawal, above), in order to use the user data to authenticate the user. (Ex. 1002, ¶130).

Specifically, Agrawal teaches a method of authentication that includes a comparison of user data before and after clicking an ad link, where a significant change in the user data indicates potential fraud. (Ex. 1005, 2:23-40, 7:45-8:12)(Ex. 1002, ¶130). Both Agrawal and Oliver emphasize the advantages of authenticating the user to prevent fraudulent payments to publishers for click-throughs, and to prevent the same users from redeeming offers too many times. (Ex. 1005, 1:33-58)(Ex. 1007, ¶¶0045, 0047)(Ex. 1002, ¶130). By including the user data or some subset thereof in the text message, the mobile device can provide confirmation that it is the same mobile device on which the advertisement was displayed, thus allowing Agrawal's system to confirm that text message responses are not being generated to increase a given publisher's payments. (Ex. 1005, 1:33-58)(Ex. 1011, ¶¶0045, 0047)(Ex. 1002, ¶130).

“[15e] receive, from the mobile device, the custom text message in response to the mobile device detecting a second interaction with the messaging application; and”

The combination renders this limitation obvious. Oliver teaches that once the prepopulated text message is generated, “the users [sic] only action required is to press or tap ‘Send.’” (Ex. 1011, ¶0029)(*see also* Ex. 1011, ¶¶0026, 0033)(Ex. 1002, ¶131). A PHOSITA in the relevant timeframe would have understood and found obvious that the tap on the “send” button of a messaging application would have to be **detected**, and did, in fact, trigger “sending” of the message to the destination

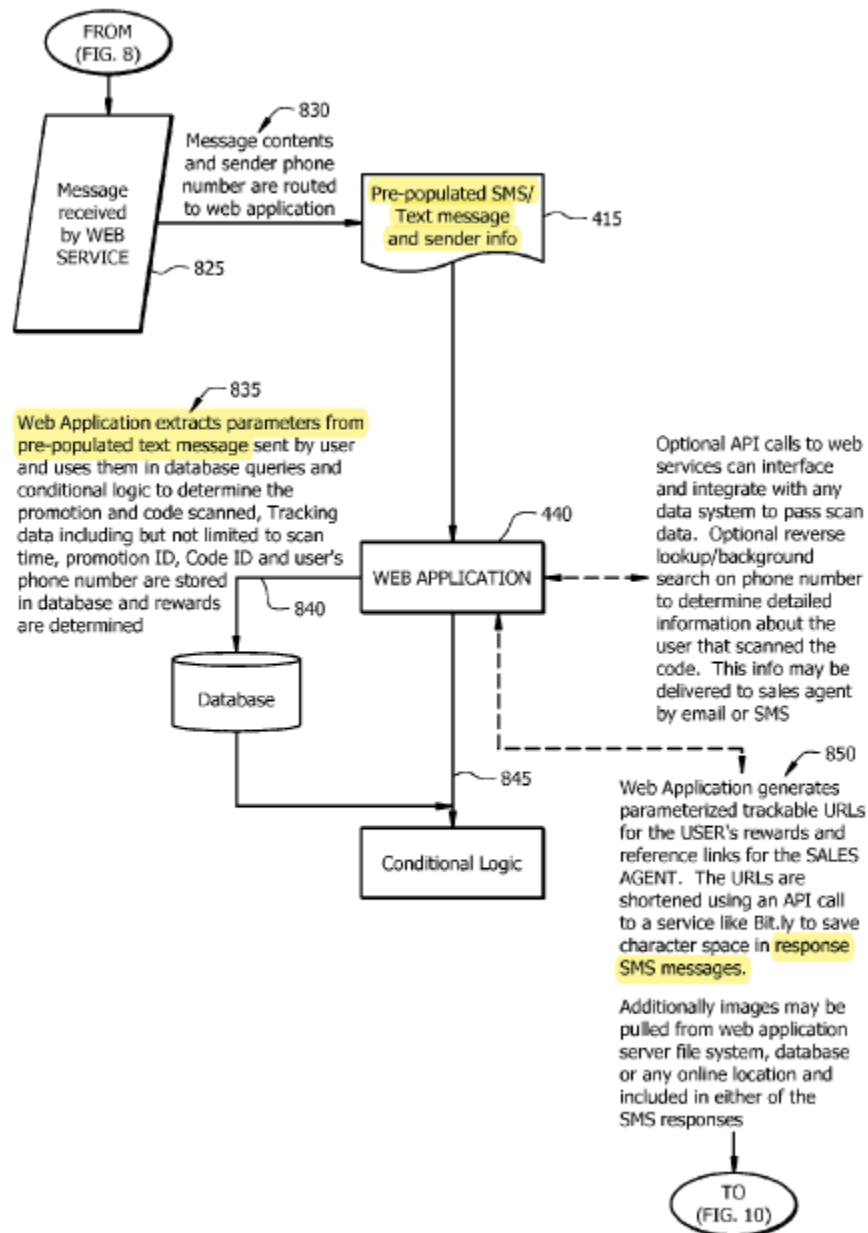
number (here, system 120). (Ex. 1002, ¶131). Pressing or tapping the ‘send’ button is a **second interaction**, because the first interaction was clicking the ad. (Ex. 1011, ¶0009)(“the disclosed principles streamline the response process by simply requiring only two actions by the user...”)(Ex. 1002, ¶131). The claim language “second interaction with the messaging application” does not require two interactions *with the messaging application*, because the “first interaction” is with the “invitation” (the ad displayed in the browser), not with the messaging application. (Ex. 1002, ¶131).

Oliver teaches that its text messages are directed to a web service. (Ex. 1011, ¶0038)(Ex. 1002, ¶132). As explained above under the Overview of the Combination and Rationale (Motivation) for the Combination, it would have been obvious to operate Oliver’s web service on Agrawal’s advertising system 120, such that the processor **receives** the text message. (Ex. 1002, ¶132).

“[15f] deliver an installment of the text messaging subscription service without receiving an opt-in communication after receiving the custom text message.”

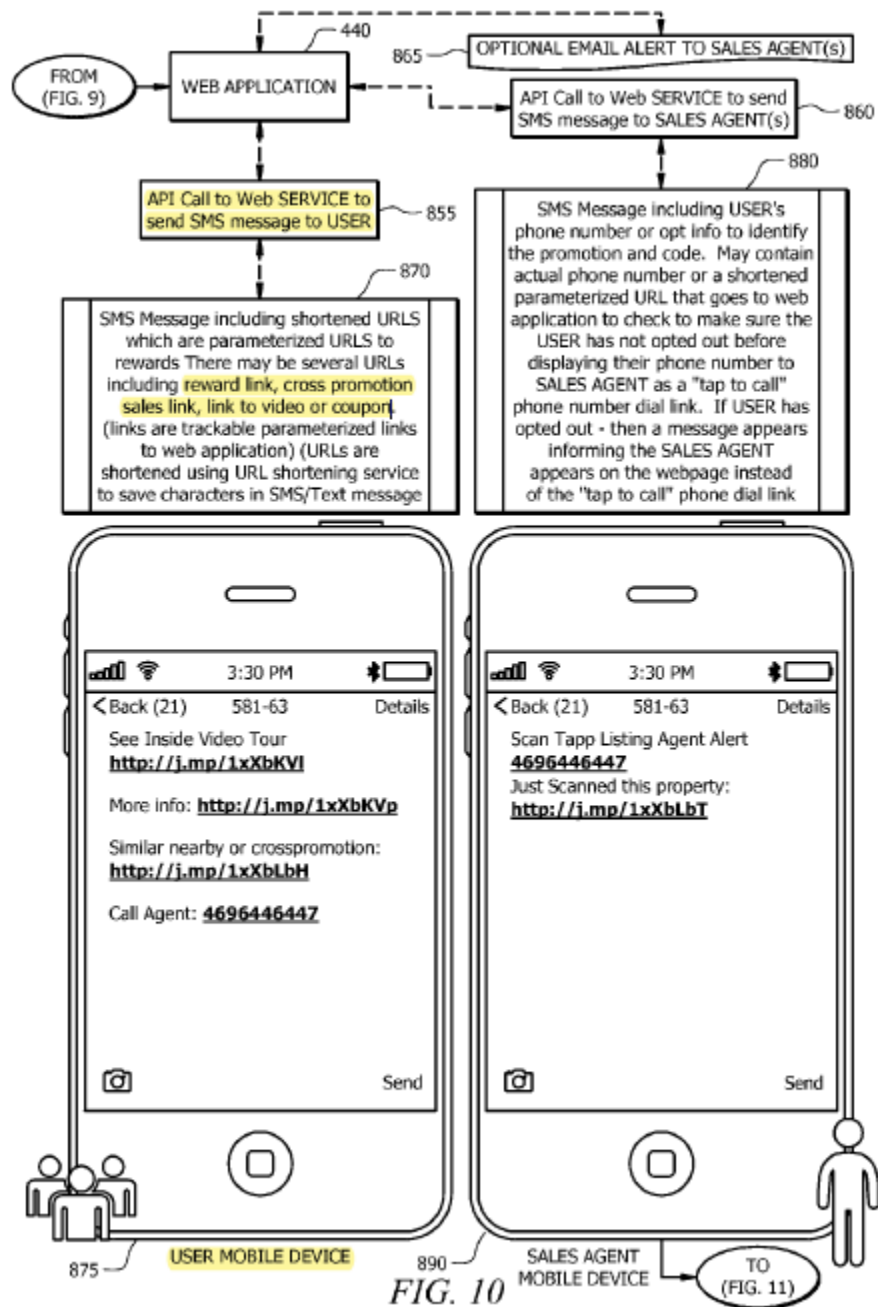
The combination renders obvious **delivering an installment of the text messaging subscription service without receiving an opt-in communication after receiving the custom text message**. Specifically, Oliver teaches that when the custom text message is received, the user is registered and a responsive text message is sent to the user. This is shown, for example, beginning in Fig. 9 of Oliver,

shown below with highlighting added:



(Ex. 1011, Fig. 9, ¶¶0051-0054)(Ex. 1002, ¶133). In Fig. 9, the server receives the pre-populated text message at step 825, extracts the relevant information at step 415, performs database checks with the information at step 835, and defines a response text message at step 850. (Ex. 1011, Fig. 9, ¶0053)(Ex. 1002, ¶133). The process

continues with Fig. 10, reproduced below with highlighting added:



(Ex. 1011, Fig. 10, ¶¶0051-0054)(Ex. 1002, ¶133). In Fig. 10, Oliver shows (see numerals 855, 870, and 875) the generation of a response SMS to the user's device having reward or sales information in it. (Ex. 1011, Fig. 10, ¶0054)(Ex. 1002, ¶133).

This is the **delivery of an installment of the text messaging subscription service**. (Ex. 1002, ¶133). As shown in Figs. 8-10 of Oliver, this is performed **without receiving an opt-in communication after receiving the custom text message**. (Ex. 1011, Figs. 8-10, ¶¶0051-0054, ¶0009)(Ex. 1002, ¶133). Oliver explains that this “two-step” processing allows the user to respond to ads offering promotions in a “streamlined” fashion. (Ex. 1011, ¶¶0046-0047, 0009, 0023)(Ex. 1002, ¶133). *See AC Techs., S.A. v. Amazon.com, Inc.*, 912 F.3d 1358, 1367 (Fed. Cir. 2019)(“[A] reference need not state a feature’s absence in order to disclose a negative limitation.”).

CLAIM 16

“16. The non-transitory processor-readable medium of claim 15, wherein: the means for displaying comprises an integration tag; and the means for causing comprises a Uniform Resource Identifier (URI).”

The combination renders this claim obvious. (Ex. 1002, ¶134).

(a) means for displaying comprises an integration tag

See above, claim 15, limitation [15b]. Agrawal’s code (means for displaying) is an integration tag, because it is code (JavaScript) that performs the functions of an integration tag. (Ex. 1002, ¶¶103, 105)(*compare* Ex. 1001, 5:29-36)(*see also* discussion under claim 15, limitation [15b]). (Ex. 1002, ¶135).

(b) means for causing comprises a Uniform Resource Identifier (URI)

See above, claim 15, limitations [15c]-[15d]. As discussed there, the means

for causing is Molinet's URL. (Ex. 1009, ¶¶0081-0082)(Ex. 1002, ¶136). The "URL" is a type of URI. (Ex. 1002, ¶136).

CLAIM 17

"17. The non-transitory processor-readable medium of claim 15, wherein the means for displaying includes code to cause the mobile device to send user data to the at least one server, the code further comprising code to cause the processor to: define the means for causing based on the user data."

The combination renders claim 17 obvious. (Ex. 1002, ¶137).

(a) the means for displaying includes code to cause the mobile device to send user data to the at least one server

First, both Agrawal and Molinet teach collecting user data using code, which can be JavaScript embedded in the webpage. (Ex. 1005, 3:52-55, 6:33-36)(Ex. 1009, ¶0065)(Ex. 1002, ¶138). Agrawal teaches that when a user's device loads a webpage, the code (**means for displaying**) causes an advertisement request query to be generated. (Ex. 1005, 5:29-39)(Ex. 1002, ¶138). The advertisement query request is an HTTP request that **sends user data** to the advertising system 120 as a directed result of the execution of the "piece of code" (means for displaying). (Ex. 1005, 6:40-43, 5:29-39)(Ex. 1002, ¶138). The destination for the information items sent by the code (means for displaying) is the advertising system 120, which is the **at least one server**. (Ex. 1005, 4:16-22, 5:3-65, Fig. 3, 10:3-6)(Ex. 1002, ¶138).

Agrawal also teaches that code running on the browser can collect and **send user data to the** advertising system 120. (Ex. 1005, 6:30-40)(Ex. 1002, ¶139). A

PHOSITA would have found obvious to implement the “piece of code” that collects user data (Ex. 1005, 6:30-40) together with the “piece of code” that generates an advertisement query request (Ex. 1005, 5:29-39). (Ex. 1002, ¶139). Agrawal teaches that user data is “collected with the advertisement query request”, from which a PHOSITA would have understood that the advertisement query request *includes* the user data sent to the advertising system 120. (Ex. 1005, 3:26-42)(Ex. 1002, ¶139). Having the same body of code collect user data and transmit the advertisement query request would have been a trivial matter for a PHOSITA, and would have allowed the query request to transmit the user data, fulfilling Agrawal’s recommendation that user data be “collected with the advertisement query request”. (Ex. 1005, 3:26-42)(Ex. 1002, ¶139). Agrawal furthermore expresses flexibility in how user data is collected. (Ex. 1005, 6:30-31, 6:43-46)(Ex. 1002, ¶139). Even if separate “pieces of code” were used, however, they would still be a **means for displaying**, and the means for displaying would still **cause the mobile device to send user data to the at least one server** per the claim. (Ex. 1002, ¶139). Molinet provides a very similar teaching. (Ex. 1009, ¶¶0037, 0065)(Ex. 1002, ¶140).

(c) user data

The information collected by Agrawal’s system includes “**user data**” (*compare* Ex. 1001, 5:12-17), including user cookie information, “other user information”, user agent data (browser type, client (mobile device) type, operating

system information), the user device's IP address, the page referrer URL, and specific configuration settings for the user's device and browser. (Ex. 1005, 5:45-6:46, 8:20-33)(Ex. 1002, ¶141). Molinet teaches collecting similar information. (Ex. 1009, ¶¶0037, 0065)(Ex. 1002, ¶141).

(c) the code further comprising code to cause the processor to: define the means for causing based on the user data

The combination renders obvious **causing the processor to define the means for causing based on the user data** in two different ways. (Ex. 1002, ¶142).

First, as explained above under claim 16, it would have been obvious to use user data collected by Agrawal's code (means for displaying) in the formulation of the text message. (Ex. 1002, ¶143). To do so, it would have been obvious to include user data items in the URL used to transition the mobile device from the browser of the mobile device to the text-messaging application—a technique expressly taught by Oliver. (Ex. 1002, ¶143). Oliver shows, for example, that information to be included into the body of a text message can be encoded into a link:

[0028] smsto: 543-21: This is where the message goes
and ID=### info etc. To receive your reward TAP
SEND!

(Ex. 1011, ¶0028)(Ex. 1002, ¶143). Molinet further teaches using known URI schemes. (Ex. 1009, ¶0082)(Ex. 1002, ¶143). Molinet also incorporates (Ex. 1009, ¶0001) a provisional application (the '512 provisional, Ex. 1010), which teaches using known URI forms applicable to Android and iOS operating systems. (Ex.

1010, pp. 015 and 021)(Ex. 1002, ¶143). Along the lines of such known linking techniques taught by Oliver and Molinet, it would have been obvious to include user data intended for the body of the text message, as taught by Oliver, in the text of the link provided for contextual deeplinking as taught by Molinet. (Ex. 1002, ¶144). Thus, **the processor** (of the combined server as discussed above) **defines the means for causing based on the user data**.

Second, Molinet teaches that **user data** collected from a mobile device is used to determine the proper context in which the deeplink is to operate. (Ex. 1009, ¶¶0079-0082)(Ex. 1002, ¶145). Using the user data, the system defines a URL that is likely to work on the mobile device in question (Ex. 1009, ¶¶0079-0082). In this way, the combination also renders obvious **having the processor define the means for causing based on the user data**. (Ex. 1002, ¶145).

CLAIM 18

“18. The non-transitory processor-readable medium of claim 15, the code further comprising code to cause the processor to receive a cookie identifier in response to at least one of the mobile device requesting and/or loading the webpage or the mobile device executing the means for displaying.”

The combination renders this claim obvious. Both Agrawal and Molinet teach receiving cookie information when the mobile device loads the webpage (and thereby also executes the means for displaying). (Ex. 1005, 6:28-29, 5:64-6:29, claims 8, 13, 24)(Ex. 1009, ¶¶0037, 0065)(Ex. 1002, ¶146). The cookie information

is specifically an “identifier” because, for both Agrawal and Molinet, the cookie information is used as a method for identifying the mobile device. (Ex. 1005, 7:45-8:12)(Ex. 1009, ¶¶0074-0082)(Ex. 1002, ¶146).

CLAIM 19

“19. The non-transitory processor-readable medium of claim 15, wherein: the custom text message includes a second user identifier, the code further comprising code to cause the processor to: receive a first user identifier in response to at least one of the mobile device requesting and/or loading the webpage or the mobile device executing the means for displaying; and authenticate the mobile device based on matching the second user identifier matching the first user identifier, the installment of the text messaging subscription service delivered in response to authenticating the mobile device.”

The combination renders this claim obvious. First, Agrawal teaches a method of collecting user data a first time and a second time, comparing the two sets of collected user data, and authenticating the user if the two sets of user data match. (Ex. 1005, 7:64-8:12, *see also* 5:25-8:12, Fig. 3)(Ex. 1002, ¶147). This is shown in Fig. 3 of Agrawal, reproduced here:

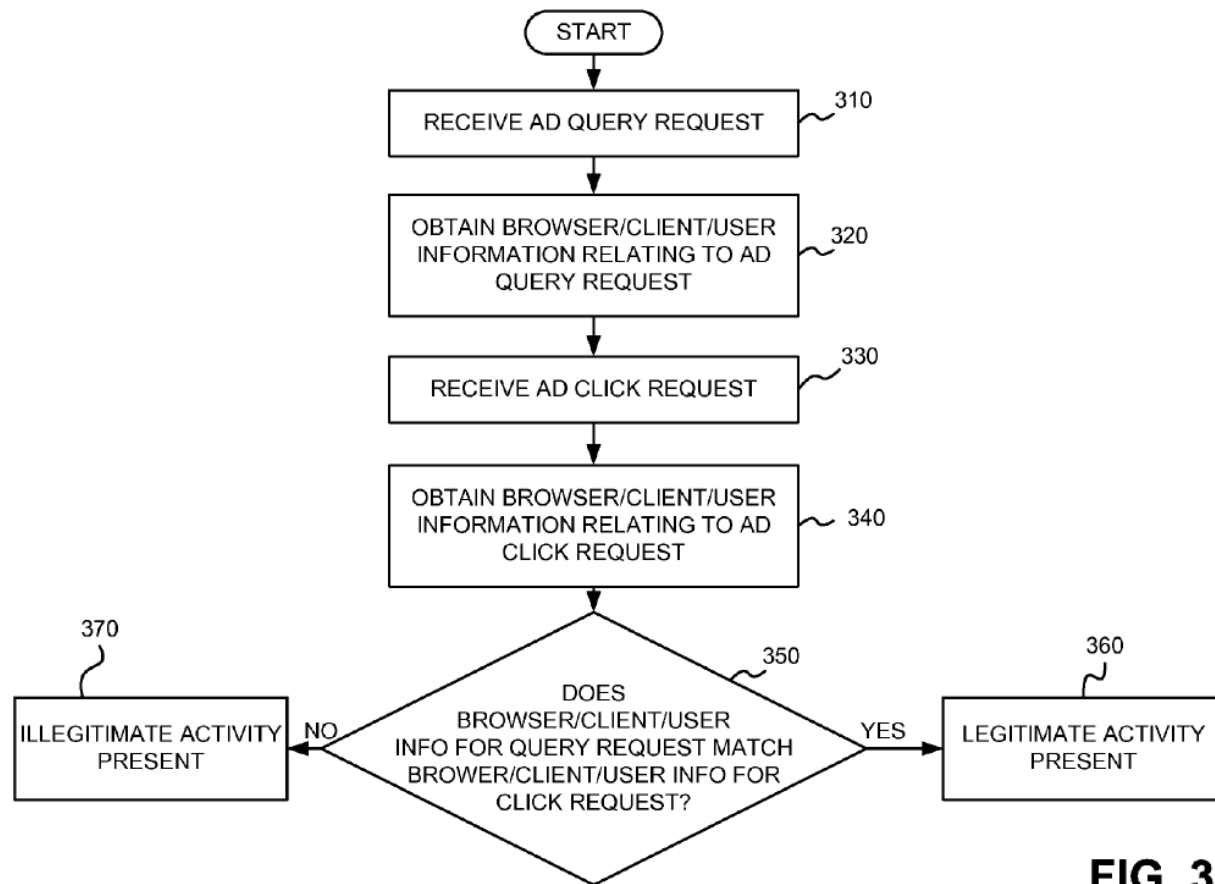


FIG. 3

(Ex. 1005, Fig. 3, 5:25-8:12)(Ex. 1002, ¶147).

As discussed above under claim 17, both Agrawal and Molinet teach collecting information that can be used to identify the user. (Ex. 1005, 5:45-6:46, 8:20-33)(Ex. 1009, ¶¶0037, 0065)(Ex. 1002, ¶148). This information is collected and sent to the server when the browser executes code in the webpage, *i.e.* when the browser **executes the means for displaying** while loading the webpage. (Ex. 1002, ¶148). Thus, the combination teaches **receiving a first user identifier in response to at least one of the mobile device requesting and/or loading the webpage or the mobile device executing the means for displaying**. (Ex. 1002, ¶148).

It would have been obvious to place user information in the text message generated per Oliver's teachings, such that the user information can be compared with information collected earlier to authenticate the user per Agrawal. (Ex. 1002, ¶149). As discussed above under claim 15, limitation [15d], Oliver expressly teaches including "user identification information" in the pre-populated text message. (Ex. 1011, ¶030)(Ex. 1002, ¶149). Oliver also expressly teaches that it is advisable to authenticate users, to prevent the user from entering a sweepstakes or giveaways too many times. (Ex. 1011, ¶0047)(Ex. 1002, ¶149).

Because Agrawal teaches the basic method of comparing sets of information to authenticate a user, and teaches collecting user-identifying information to do so, while Oliver also expressly teaches to place user-identifying information in the pre-populated text message and teaches authenticating users prior to entry into sweepstakes and giveaways that would otherwise be provided by an **installment of the text messaging subscription service**, this claim was obvious. (Ex. 1002, ¶150).

CLAIM 21

"21. The non-transitory processor-readable medium of claim 15, the code further comprising code to cause the processor to: determine whether the mobile device has previously subscribed to the text messaging subscription service, the installment of the text messaging subscription service delivered based on determining that the mobile device has not previously subscribed to the text messaging subscription service."

Oliver teaches checking whether the device has been used to gain access to a

reward more than a certain number of times, optionally with a time limit between allowed uses. (Ex. 1011, ¶¶0045, 0047)(Ex. 1002, ¶151). It would have been obvious that, regardless of the limit on the number of attempts to access a reward, a user that previously had zero attempts (*i.e.*, a user **not previously subscribed**) would not be blocked by the limit, and thus it was obvious to deliver an installment of the text messaging subscription service based on that determination. (Ex. 1002, ¶151).

CLAIM 22

“22. The non-transitory processor-readable medium of claim 15, the code further comprising code to cause the processor to: determine whether the mobile device has previously subscribed to the text messaging subscription service; and send a message to the mobile device indicating that the mobile device is already subscribed to the text messaging subscription service in response to determining that the mobile device has previously subscribed to the text messaging subscription service.”

The combination renders this claim obvious. As discussed under claim 21, Oliver teaches that the user should be blocked after a certain number of attempts to access a reward. (Ex. 1002, ¶152). Once blocked, it would have been obvious to inform the user of this, because Oliver teaches sending a response SMS (*see* above, claim 15, limitation [15f], Ex. 1011, Figs. 9-10, ¶¶0051-0054)(Ex. 1002, ¶152)). Furthermore, the content of the responsive text message (*i.e.*, a message **indicating that the mobile device is already subscribed to the text messaging subscription service**) is “printed matter” that is unconnected to the technical functioning of the system, and is therefore not limiting. *See Distefano*, 808 F.3d at 851.

CLAIM 23

“23. The non-transitory processor-readable medium of claim 15, the code further comprising code configured to cause the processor to: subscribe the mobile device to the text messaging subscription service, the first interaction and the second interaction being the only user interactions with the mobile device between sending the means for receiving and receiving the custom text message.”

See above, claim 15, limitation [15f]. Oliver expressly teaches that “only two actions” are required to respond to an ad. (Ex. 1011, ¶0009)(Ex. 1002, ¶153). The two actions correspond to the first interaction (clicking the ad link) and the second interaction (pressing or tapping the ‘send’ button). (Ex. 1002, ¶153). See also *AC Techs*, 912 F.3d at 1367.

CLAIM 24

“24[a]. A method, comprising: receiving, at at least one server, an indication of a web browser application executing on a mobile device requesting and/or loading a webpage containing a promotional message offering a subscription to a text message subscription service;”

The combination renders this limitation obvious. As explained above under claim 15, limitation [15b], Agrawal teaches that when a user loads a webpage on a browser, code in the page will cause the mobile device to send an ad request to the advertising system 120. (Ex. 1005, 5:29-39)(Ex. 1002, ¶154). The ad request is **an indication of a web browser application executing on a mobile device requesting and/or loading a webpage.** (Ex. 1002, ¶154). The webpage is the webpage

originally requested by the user, which will, when it receives a response from the advertising system 120 and finishes loading, contain the promotional message. (Ex. 1002, ¶154).

The *content* of the promotional message is printed matter unrelated to the technical functioning of the system, and thus not limiting. (Ex. 1002, ¶155). *See Distefano*, 808 F.3d at 851. However, in the combination, the promotional message would obviously **offer a subscription to a text message subscription service**, because Oliver teaches that the distribution of marketing messages containing discounts and coupons is a possible use of advertising (*see* above, claim 15, limitation [15b] and [15e]), and it was obvious to inform the reader of an ad how to obtain such messages, in case they interested the user. (Ex. 1002, ¶155). This is basic marketing, and would have been obvious to a PHOSITA in the relevant timeframe. (Ex. 1002, ¶155).

“[24b] defining, at the at least one server, a uniform resource identifier (URI) that deeplinks to a text messaging application that is different from the web browser application;”

See above, claim 15, limitation [15c]. The URI described there **deeplinks** to the text-messaging application because it causes the mobile device to generate a message, rather than simply opening the top screen of the text-messaging application. (Ex. 1002, ¶156).

“[24c] sending the URI from the at least one server to the mobile device,”

See above, claim 15, limitation [15c]. (Ex. 1002, ¶157).

“[24d] the URI configured to, in response to a first user interaction with the promotional message via the web browser application, cause the mobile device to (1) automatically render a user interface of the text messaging application and”

See above, claim 15, limitation [15c]. When the mobile device transitions to the text-messaging application, it would have been obvious to **automatically render (draw) a user interface of the text messaging application**, because otherwise the user would not see the text message. (Ex. 1002, ¶158).

“[24e] (2) automatically populate a custom text message with a destination address for a recipient of the custom text message, the text messaging application configured to send the custom text message upon detection of a second user interaction with the text messaging application; and”

See above, claim 15, limitations [15c] and [15d]. (Ex. 1002, ¶159).

“[24f] delivering an installment of the text message subscription service based on the first user interaction and the second user interaction and without receiving any further indications of user interactions with the mobile device between receiving the custom text message and delivering the installment of the text message subscription service.”

See above, claim 15, limitations [15d]. Oliver discloses sending an installment after receiving the user text message without further indications of user

interactions. (Ex. 1011, Figs. 8-10, ¶¶0051-0054)(Ex. 1002, ¶160). *See AC Techs.*, 912 F.3d at 1367.

CLAIM 25

“25. The method of claim 24, further comprising: receiving user data in response to the web browser application requesting and/or loading the webpage; ascertaining, based on the user data, at least one of an identity of at the mobile device or an identity of the user associated with the mobile device, the URI defined based on at least one of the identity of the first mobile device or the identity of the user associated with the mobile device.”

See above, claim 17. As described there, both Agrawal and Molinet teach collecting user data, and that the user data is used to define the URI. (Ex. 1002, ¶161).

The combination also teaches the additional portions of claim 25. First, Molinet expressly teaches that the collected user data is used to form a device fingerprint that **identifies** the user device, and that the identity of the user device is used to **define the URI** such that the URI will work on the user device. (Ex. 1009, ¶¶0065, 0078-0082)(Ex. 1002, ¶162). Second, as discussed above under claim 17, it would have been obvious to include user data (and specifically a user identifier that indicates **the identity of the user** as discussed under claim 19) in the body of the message itself, and thus in the link that generates the message, as taught by Oliver. (Ex. 1011, ¶¶0027-0029)(Ex. 1002, ¶162).

CLAIM 26

“26. The method of claim 24, further comprising: sending, from the at least one server and to the mobile device, code to cause the mobile device to store a cookie in response to the web browser application executing on the mobile device requesting and/or loading the promotional message; and receiving user data associated with the cookie in response to the first user interaction with the promotional message, the custom text message including customized content that is associated with the cookie.”

The combination renders this claim obvious. Specifically, Molinet teaches collecting user data and forming it into a “fingerprint” to identify the device, which the server then causes to be stored in a cookie on the mobile device. (Ex. 1009, ¶¶0065-0067)(Ex. 1002, ¶163). This is done using **code sent from the at least one server and to the mobile device**. (Ex. 1002, ¶163). As Dr. Houh explains, cookies were usually set in one of two ways: using instructions sent as part of an HTTP message from the server to the mobile device, or using JavaScript (which is sent from the server to the mobile device as discussed above under claim 15, limitation [15b]). (Ex. 1002, ¶163). Agrawal expressly states that its user data can be cookie data (Ex. 1005, 7:25-28) as does Molinet (Ex. 1009, ¶¶0065-0067), and it would have been obvious to receive user data **associated with a cookie in response to the first user interaction with the promotional message** and to include the user data in the promotional message. (Ex. 1002, ¶163). Specifically, Molinet teaches to look up cookie data in the form of a “locally-stored fingerprint” after a contextual deeplink is clicked, and to formulate a response with a link that works for the

particular device based on the user data, as shown in Fig. 5, reproduced below:

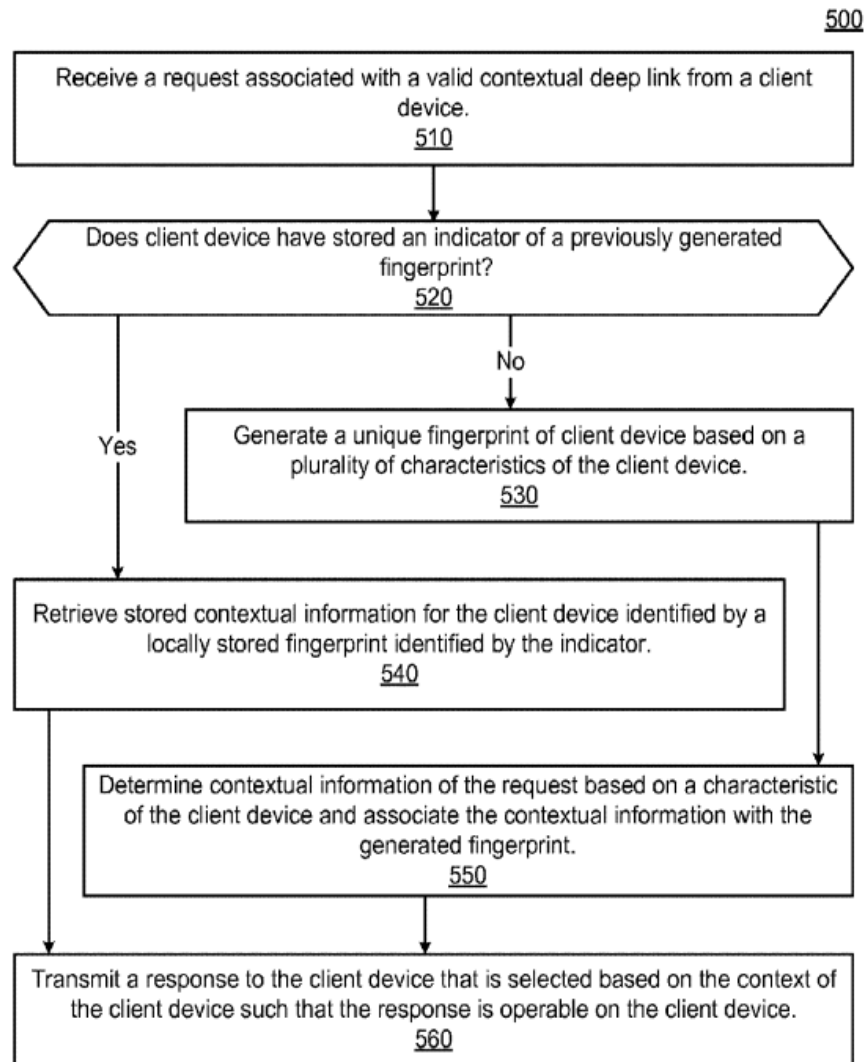


FIG. 5

(Ex. 1009, Fig. 5, ¶¶0102-0107)(Ex. 1002, ¶163).

Furthermore, as explained above under claims 17 and 19, it would have been obvious to use user data, and in particular, a user identifier within the custom text

message to carry out the method of Oliver. (Ex. 1002, ¶164). Because Agrawal teaches collecting user data including cookie data after a link is clicked (Ex. 1005, 6:46-7:28), and Molinet teaches a specific method of using user data in cookie data to formulate a link to send to the device to effectuate mobile app deeplinking, and because it was obvious to use this user data in a pre-populated SMS as taught by Oliver, this claim was obvious. (Ex. 1002, ¶164).

CLAIM 27

“27. The method of claim 24, further comprising: receiving user data in response to the web browser application requesting and/or loading the webpage; and identifying at least one of the mobile device or the user of the mobile device based on the user data, the URI defined based on an identity of the at least one of the mobile device or the user of the mobile device.”

See above, claim 25. The minor differences between claims 25 and 27 are not material to the analysis under claim 25. (Ex. 1002, ¶165).

CLAIM 28

“28. The method of claim 24, wherein the custom text message complies with opt-in requirements for enrollment in the text message subscription service such that the mobile device can be enrolled in the text message subscription service without sending or receiving an additional authorization from the mobile device.”

(a) enrolled in the text message subscription service without sending or receiving an additional authorization from the mobile device

See the discussion above under claim 15, limitation [15f], explaining Oliver’s response messages. As shown in Figs. 8-10 of Oliver, enrollment in a promotion

takes place without sending or receiving an additional authorization from the mobile device. (Ex. 1011, Figs. 8-10, ¶¶0051-0054, ¶0009)(Ex. 1002, ¶166). Oliver explains that this “two-step” processing allows the user to respond to ads offering promotions in a “streamlined” fashion. (Ex. 1011, ¶¶0046-0047, 0009, 0023)(Ex. 1002, ¶166). Accordingly, it would be obvious that enrollment in and participation in the subscription is completed **without sending or receiving an additional authorization from the mobile device.** (Ex. 1002, ¶166). This is because no further communications are needed in order enroll and participate in the subscription. (Ex. 1002, ¶166). *See also AC Techs., S.A. v. Amazon.com, Inc.*, 912 F.3d at 1367.

(b) the custom text message complies with opt-in requirements for enrollment in the text message subscription service

Regarding the limitation “complies with opt-in requirements for enrollment in text message subscription services”, the specification of the ’897 patent teaches that use of the “two-tap” method (such as Oliver’s) complied with opt-in requirements for enrollment in text message subscription services. (Ex. 1001, 7:19-23)(*See also* Ex. 1015, pp. 122-123) (Ex. 1002, ¶167).

It further would have been obvious to design the combination to comply with opt-in requirements for enrollment in text message subscription services in order to create a commercially viable system which is legally compliant. (Ex. 1002, ¶168). As of the relevant time, advertising texts could be subject to legal or industry

restrictions that required an advertiser to both obtain a user's consent and provide proof of possession of a smartphone prior to sending advertising texts. (Ex. 1002, ¶168)(see Ex. 1001, 7:19-23). To prove both consent and possession of the phone, it was by 2012 considered a best practice to request, in an advertisement, that a user sign up for text messages by sending a text to the advertiser. (Ex. 1002, ¶168)(Ex. 1028, pp. 008-009, 0015-0021)(Ex. 1002, ¶168). Because this complies with opt-in requirements as admitted by the '897 patent, the mobile device **can be automatically subscribed to the subscription list without sending or receiving an additional authorization from the mobile device.**

CLAIM 29

“29. The method of claim 24, further comprising: determining that the mobile device has not previously subscribed to the text messaging subscription service, the installment of the text messaging subscription delivered based on determining that the mobile device has not previously requested delivery of the text messaging subscription.”

See above, claim 21. (Ex. 1002, ¶169).

CLAIM 30

“30. The method of claim 24, further comprising: determining that the mobile device has previously subscribed to the text messaging subscription service; and sending a message to the mobile device indicating that the mobile device is already subscribed to the text messaging subscription service.”

See above, claim 22. (Ex. 1002, ¶170).

Ground 2. Claims 15-30 were obvious as in Ground 1, in further view of *Ad Serving Technology*

Claims 15-30 were obvious as in Ground 1, in further view of the textbook Cristal, G. “*Ad Serving Technology, Understand the marketing revelation that commercialized the internet*” (“**Ad Serving Technology**”)(Ex. 1012).

Ad Serving Technology was not of record during the prosecution of the application leading to the ’897 patent.

A. Prior Art Status

Ad Serving Technology was published in 2014 (Ex. 1002, ¶171)(Ex. 1012, p. 004)(Ex. 1030)(Ex. 1031) and is thus prior art under post-AIA 35 U.S.C. § 102(a)(1).

B. Overview of the Ground

This ground challenges the claims at-issue under ground 1, and additionally, claim 20. Claim 20 requires the “means for displaying” to be configured to execute certain business rules to decide whether to display the ad. Agrawal (via the incorporated ’900 application) teaches applying business rules to determine whether promotional messages should be displayed, but does not specifically teach that the business rules are executed in means for displaying (Agrawal’s code). *Ad Serving Technology*, however, teaches that ad tags were well-known to contain JavaScript that could determine whether or not to display the ad, and thus motivates the combination. (Ex. 1012, p. 054 (referring to added page numbers))(Ex. 1002, ¶172).

The combination will be further explained in the claim mapping section

below.

C. Analogous Art

Ad Serving Technology is analogous art because it is in the same field as the '897 patent and is reasonably related to the problems facing the named inventors. (Ex. 1012, pp. 027-028)(Ex. 1002, ¶174).

D. Claim Mapping

CLAIM 20

“20. The non-transitory processor-readable medium of claim 15, wherein the means for displaying includes code configured to be executed the mobile device to: determine that the mobile device satisfies a client business rule; and cause the mobile device to display the invitation to subscribe to a text messaging subscription service via the first application in response to determining that the mobile device satisfies the client business rule.”

Agrawal (via the incorporated '900 application) already teaches applying business rules to determine whether promotional messages should be displayed. (Ex. 1006, 015:28-016:24, 037:9-32, 039:19-27)(Ex. 1002, ¶175). The business rules can include, for example, whether the user has been over-exposed to an ad (by seeing it too many times within a recent time period, Ex. 1006, 039:19-27), or by using a blacklist of advertiser URLs or keywords (037:9-32), the content of a page, the general content of a publisher, user characteristics (e.g., language or location), the appearance, location or size of an ad on a page (015:28-016:24). (Ex. 1002, ¶175).

It would have been obvious to enforce such rules by using **code** in the means for displaying of Agrawal **to cause the first application to display the promotional message in response to a business rule being met.** (Ex. 1002, ¶176). As discussed above under Ground 1, claim 15, element [15b], Agrawal's code is implemented using JavaScript. JavaScript, as the textbook *Ad Serving Technology* states, was a powerful scripting language that was commonly used in ad tags. (Ex. 1012, p. 053 including Fig. 1.5 and caption)(Ex. 1002, ¶176). *Ad Serving Technology* states that "JavaScript code allows the ad to be pulled directly into a Publisher's web page from the third party ad server and make decisions about what ad to display in real time." (Ex. 1012, p. 054, *see also* pp. 051-054)(Ex. 1002, ¶176).

Because Agrawal teaches business rules that, when met, allow ads to be displayed, because Agrawal teaches using means for displaying comprising JavaScript, and because it was well-known in the relevant time to use JavaScript to "make decisions about what ad to display in real time", it would have been obvious to implement Agrawal's integration tags to implement business rules such as those described in the incorporated '900 application. (Ex. 1002, ¶177). A PHOSITA would have had a reasonable expectation of success in programming the well-known and widely used JavaScript language to implement Agrawal's business rules in this manner. (Ex. 1002, ¶177).

IV. SECONDARY CONSIDERATIONS

Petitioner is not aware of any secondary considerations that would support an inference of non-obviousness. In a complaint for patent infringement, Patent Owner alleged (Ex. 1022, ¶51) that the patent has “garnered industry praise”, citing three articles (submitted as Exs. 1023-1025). Two of the articles, however, simply quote or characterize statements of the Patent Owner itself (Exs. 1024 and 1025). A third article calls “two-tap” technology “novel”, which, as explained in the introduction, it clearly was not. (Ex. 1011, ¶¶0029, 0034, 0048, 0007)(Ex. 1007, 10:1-5, 9:48-55, 13:12-18)(Ex. 1013, ¶0042)(Ex. 1002, ¶¶178-180). *See Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1324 (Fed. Cir. 2004)(“a ‘nexus must be established between the merits of the claimed invention and evidence of commercial success before that evidence may become relevant to the issue of obviousness’”). In an opposition to a motion to dismiss, Patent Owner also alleged copying (Ex. 1014, p. 3), but provided no details, citing only to an irrelevant paragraph in its complaint. Patent Owner has thus not made a case for secondary considerations.

V. DISCRETIONARY INSTITUTION

A. The Board should not deny the petition under 35 U.S.C. §325(d)

The Board should not exercise its discretion to deny the petition under 35 U.S.C. §325(d). *See Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte G.m.b.H.*, IPR2019-01469, Paper 6, *8-9 (PTAB Feb. 13, 2020) (precedential).

First, most of the references in Grounds 1-2, namely Agrawal, Molinet, and *Ad Serving Technology*, were not of record during prosecution of the application leading to the '897 patent. *See Advanced Bionics* at *8-9. While the Oliver reference was of record, it was not used in a rejection. Thus, there is a relatively low degree of overlap between the prior art cited during prosecution and the prior art applied herein, per factors (a) and (b) of *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph). *See Advanced Bionics* at *9, (citing *Becton, Dickinson* factors).

Moreover, the application Examiner's understanding of Oliver was fundamentally mistaken. In a non-final action, the Examiner summarized Oliver by quoting ¶0005 of Oliver. (Ex. 1004, pp. 232-233). That paragraph, however, contains Oliver's *description of the prior art to Oliver*, and criticizes the prior art for "requir[ing] a user to correctly type both the destination number or short code, as well as the specific verbiage in the body of the SMS message before the message can be sent successfully." (Ex. 1004, pp. 232-233)(Ex. 1011, ¶0005). In contrast, the principal teachings of Oliver avoid this disadvantage by pre-populating a text message. (Ex. 1011, ¶¶0009, 0027-0029, 0051). Because the Examiner likely mistook Oliver's characterization of the disadvantages of the prior art for Oliver's main teachings, the Examiner arrived at an understanding of Oliver nearly opposite

to that which a PHOSITA would have reached.

The Oliver reference was also substantively examined during proceedings on a related application (U.S. App. Ser. No. 15/986,569, Ex. 1015), in which the Examiner rejected different claims than those at issue in the '897 patent several times over combinations involving Oliver. These rejections, however, were never overcome, and the application was ultimately abandoned. (Ex. 1015, p. 002, 026).

The Board should thus not deny the petition under §325(d).

B. The Board should not deny the petition under 35 U.S.C. §314(a)

Nor should the Board deny the petition under 35 U.S.C. §314(a). *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential)(“*Fintiv*”). The *Fintiv* factors weigh in favor of institution, as follows:

Factor 1. Postscript intends to move for a stay pending *inter partes* review, should the review be instituted.

Factor 2. The district court case against Postscript is still in early stages. The current schedule states that trial is beginning April 7, 2025 but also on “March ____, 2025” (blank in original), which is “subject to the Court’s availability”. (Ex. 1027, pp. 018, 021). The District of Delaware as a whole, for all civil trials, currently has a median time of 36.7 months to trial, which would result in a trial in February 2026. (Ex. 1026, p. 014). It is thus likely that the Board will reach a decision prior to any trial on the merits in district court. Petitioner also filed this Petition expeditiously

after receiving the Patent Owner's infringement contentions on June 29, 2023.

Factor 3. Because the district court case against Postscript is early stages, the parties and the court have invested very little in the proceeding. There have been no motions for summary judgment of invalidity based on prior art, no expert reports, and no Markman briefing at the time of filing of this petition. (Ex. 1027).

Factor 4. Because the district court case against Postscript is early stages, it is too early to say what the extent of overlap at trial will be. Postscript has asserted each of the references at issue here in its invalidity contentions, among others.

Factor 5. Postscript is a party only to the parallel litigation filed in the District of Delaware on Jan. 25, 2023.

Factor 6. The merits of the petition are compelling, and the Board should institute on this basis alone.

VI. CONCLUSION

Petitioner thus respectfully requests that claims 15-30 of the '897 patent be canceled.

Date: <u>October 19, 2023</u>	<u>/Matthew A. Smith/ (RN 49,003)</u> Matthew A. Smith SMITH BALUCH LLP 700 Pennsylvania Ave. SE, 2nd Floor Washington, DC 20003 (202) 669-6207 smith@smithbaluch.com <i>Counsel for Petitioner</i>
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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing petition for *inter partes* review, together with all exhibits and other documents filed therewith, was served by USPS Priority Mail - Express on October 19, 2023, on the Patent Owner's counsel of record at the United States Patent & Trademark Office having the following address:

COOLEY LLP
ATTN: IP Docketing Department
1299 Pennsylvania Avenue, NW
Suite 700
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UNITED STATES

Date: October 19, 2023

/Matthew A. Smith/ (RN 49,003)

CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the foregoing petition for *inter partes* review contains 13,982 words according to the word processing program used to prepare it.

Date: October 19, 2023

/Matthew A. Smith/ (RN 49,003)