

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

IPR2024-00129

Patent No. 11,553,074

**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. 11,553,074 (“ the ’074 patent ”).
1002	Declaration of Dr. Henry Houh.
1003	C.V. of Dr. Henry Houh.
1004	File History of U.S. App. Ser. No. 17/496590 (issued as the ’074 patent).
1005	U.S. Pat. No. 8,015,615 (“ Agrawal ”).
1006	U.S. Pat. App. Ser. No. 10/375,900 (“ Anderson ”).
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 A1 (“ Molinet ”).
1010	U.S. Prov. App. Ser. No. 62/079,512 (“ The Molinet ’512 Provisional ”).
1011	U.S. Pat. App. Pub. 2015/0178784 A1 (“ 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 (abandoned).

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).

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 ”).
1035	Excerpt from assignment database for Khanna.

Petitioner respectfully requests *inter partes* review under 35 U.S.C. §311 of claims 1-30 of U.S. Pat. No. 11,553,074 (“the ’074 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 Stodge, Inc. d/b/a Postscript.

NOTICE OF RELATED MATTERS

The ’074 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 patent for which review is sought 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 1-30 of the '074 patent be canceled based on the following Grounds:

Ground 1: Claims 1-30 were obvious over Oliver, Agrawal and Khanna.

Ground 2: Claims 1-30 were obvious as in Ground 1, in view of Molinet.

THRESHOLD REQUIREMENT FOR INTER PARTES REVIEW

The information presented herein, if unrebutted, 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. INTRODUCTION

A. Technical Background

The '074 patent is directed to a known business method, implemented using known Internet advertising technology. (Ex. 1002, ¶23). As explained by Dr. Houh in the attached declaration, the known business method involved a way to obtain a contact mobile phone number in order to later send marketing text messages. (Ex. 1002, ¶¶23-40). In the method of the '074 patent, a mobile phone user views a Web advertisement in a browser, where the ad has a link. (Ex. 1001, 6:62-7:15)(Ex. 1002, ¶¶27-30). Clicking the link opens another mobile app, using known “deeplinking”

technology. (Ex. 1001, 8:44-48)(Ex. 1002, ¶¶27-30, 41-46)(*citing* 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. 1019, pp. 007-008). This causes a text messaging app to open, with a pre-filled text message. (Ex. 1001, Figs. 2A-2B, 6:62-7:15)(Ex. 1002, ¶27). By clicking “send” on this pre-filled message, the user can send a text to the advertiser, which signs the user up for further promotional texts. (Ex. 1001, 6:62-7:15)(Ex. 1002, ¶¶27-28). Because only two actions (clicking a link and clicking ‘send’) are required, the ’074 patent refers to this method as having two “taps”. (Ex. 1001, 6:53-57)(Ex. 1002, ¶29). Such “two-tap” business methods were well-known in the relevant timeframe. (Ex. 1002, ¶¶31-41)(Ex. 1011, ¶¶0029, 0034, 0048, 0007)(Ex. 1007, 10:1-5, 9:48-55, 13:12-18)(Ex. 1013, ¶0042)(Ex. 1017, ¶¶0026, 0069, 0088)(Ex. 1002, ¶¶31-41).

The ads that the user views are, in the ’074 patent, served using standard ad-network technology. (Ex. 1002, ¶¶47-66). Such “ad networks” worked by placing small pieces of JavaScript code into webpages. (Ex. 1002, ¶¶47-50). When a user downloaded the webpage, the code would execute, contacting an advertising server. The advertising server would send back an ad for display on the webpage. (Ex. 1002, ¶¶60-65). Because the ad was chosen *after* the user downloaded the page, the advertising server could receive information from the mobile device about *the identity* of the user *and the device*, and choose the ad accordingly. (Ex. 1002, ¶¶60-

65).

The '074 patent purports to claim the use of the known business method (pre-populating a text message to an advertiser to request later marketing texts) with standard ad-delivery technology, as explained below. (Ex. 1002, ¶¶66-68).

B. Examination History of the '074 patent.

During prosecution of the application that issued as the '074 patent, the Examiner rejected the claims several times over prior art not pertinent here. (Ex. 1004, pp. 147-101, 269-303). After an interview (Ex. 1004, p. 059) and a thirteen-page Examiner's amendment that substantially modified the claims (Ex. 1004, pp. 043-055), the Examiner allowed certain claims, stating

“[t]he known prior art fails to disclose or suggest each and every limitation together as claimed. Additionally, the examiner cannot determine a reasonable motivation, either in the known prior art or the existing case law, to combine the known limitations to render the claimed invention.”

(Ex. 1004, p. 55).

II. CLAIM CONSTRUCTION

The parties have exchanged proposed claim constructions in related litigations. (Exs. 1018, 1029). Petitioner submits that the Board need not construe any claim terms to consider the prior art presented herein.

III. DETAILED EXPLANATION OF THE REASONS FOR UNPATENTABILITY

Ground 1. Claims 1-30 were obvious over Oliver, Agrawal, and Khanna.

Claims 1-30 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. 2013/0111328 (“**Khanna**”)(Ex. 1034).

Agrawal and Khanna were not of record during the prosecution of the application leading to the '074 patent. Oliver *was* of record, but was not used in a rejection. As discussed in §V.A, below, Oliver was used in rejections, and not overcome, in the parent of the '074 patent.

A. Prior Art Status

Oliver, Agrawal, and Khanna 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).

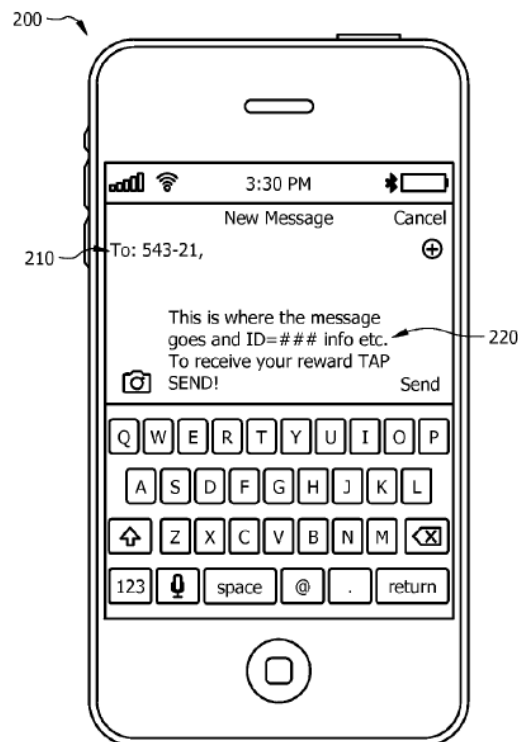
B. Overview of the Ground

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, described in two publications:

Agrawal and Khanna. (Ex. 1002, ¶¶74-75).

1. Overview of Oliver (two-tap method)

Oliver teaches a two-tap method where a consumer accesses a “passive entity” associated with an advertisement. (Ex. 1011, ¶¶0034, 0007)(Ex. 1002, ¶76). The “passive entity” is sometimes a scannable QR code, but Oliver makes clear that a passive entity can be anything that stores link information and is activated by a user’s mobile device. (Ex. 1011, ¶0007, Abstract)(Ex. 1002, ¶76). Activating the passive entity creates a pre-populated text message, such as the one shown in Fig. 2 of Oliver, reproduced below:



(Ex. 1011, Fig. 2, ¶¶0027-0029)(Ex. 1002, ¶77). 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!

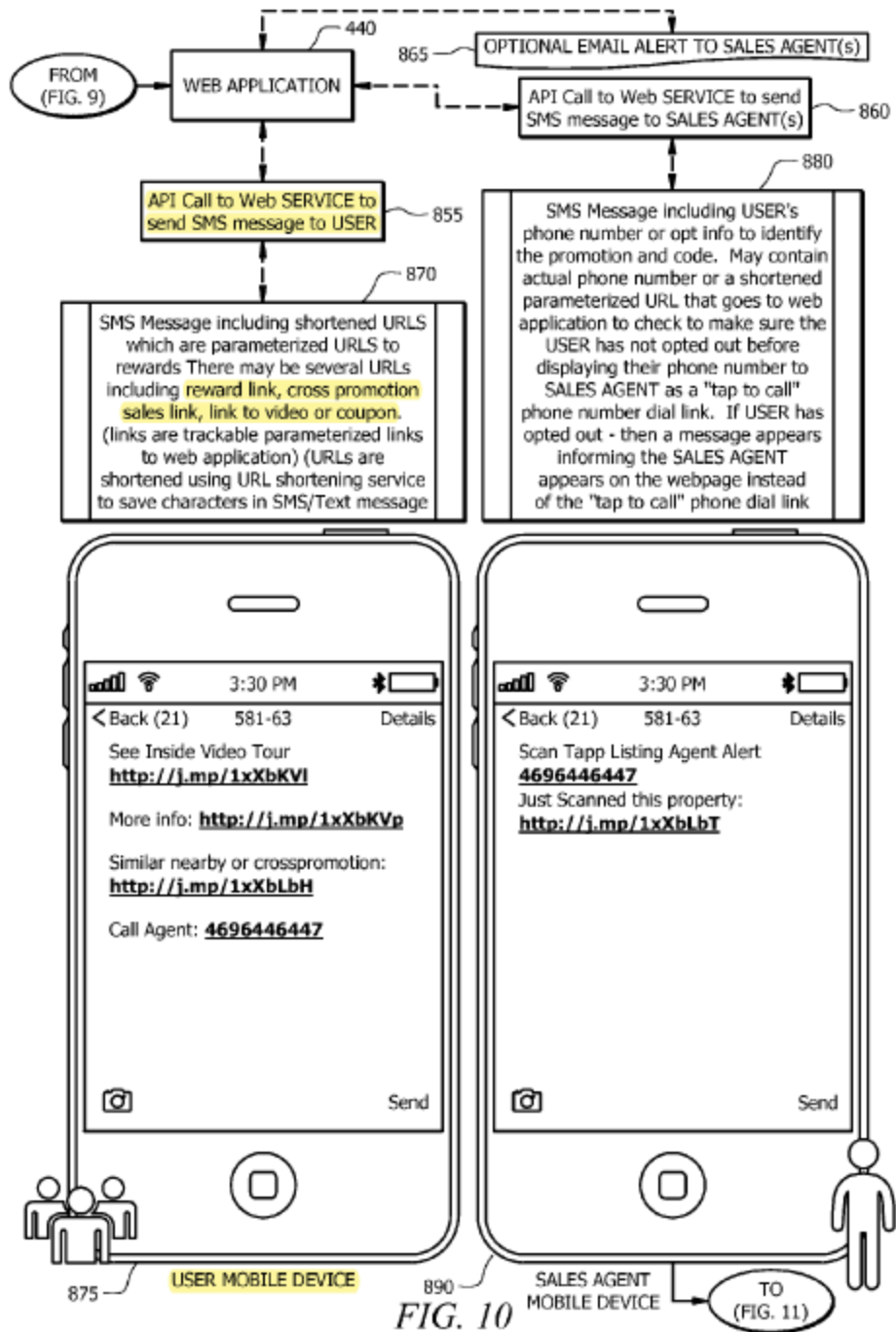
(Ex. 1011, ¶¶0028, *see also* 0027-0029)(Ex. 1002, ¶77).

Oliver explains—just like the '074 patent—that limiting the user actions to two improves the user response process:

“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, ¶78).

When the message is sent to the server, Oliver teaches that the user receives responses offering discounts, rewards, incentives, etc., as shown in Fig. 10 of Oliver, reproduced here with highlighting added:



(Ex. 1011, Fig. 10, ¶¶0051-0053)(Ex. 1002, ¶79).

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

technology to *deliver* ads on the Internet. (See Ex. 1011, ¶¶0008, 0034, 0036, 0077).

This standard technology, however, was disclosed in two Google patent publications: **Agrawal** and **Khanna**. (Ex. 1002, ¶80).

2. Overview of Agrawal (ad network)

Agrawal describes a known ad-network system. Ad-network systems (explained by Dr. Houh, Ex. 1002, ¶¶47-65) generally have a central ad-network server to coordinate activities, advertisers who wish to place ads, publishers who have websites on which to place ads, and users who download the websites and see the ads. (Ex. 1002, ¶81). Such a system is shown in Fig. 1 of Agrawal, reproduced here:

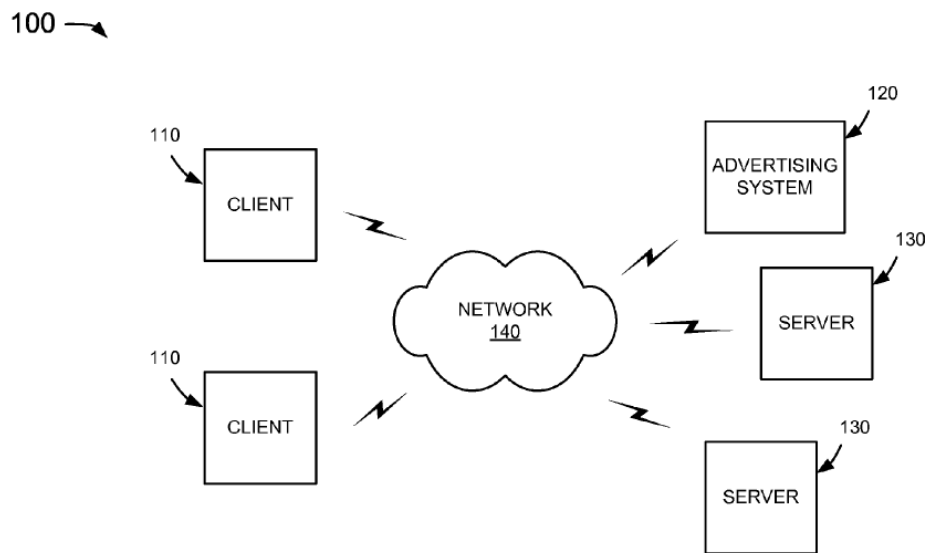


FIG. 1

(Ex. 1005, Fig. 1, 3:62-35)(Ex. 1002, ¶81). In Fig. 1, the central coordinating server is the “advertising system 120”. (Ex. 1005, 1:62-65, 10:5-6)(Ex. 1002, ¶81). The

users are the “client” devices 110, which can be mobile devices. (Ex. 1005, 4:10-16)(Ex. 1002, ¶81). The various publishers of webpages are represented by servers 130. (Ex. 1005, 4:18-20)(Ex. 1002, ¶81).

In Agrawal’s system, a user will download a webpage. (Ex. 1005, 5:29-32, 3:46-58)(Ex. 1002, ¶82). 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, ¶82). When this happens, the user’s browser sends to advertising system 120 an “ad query request”. (Ex. 1005, 5:29-39)(Ex. 1002, ¶82). Along with the ad query request, the browser sends data about the user and the device to advertising system 120. (Ex. 1005, 5:64-6:46)(Ex. 1002, ¶82). 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, ¶82). The ads will typically have links that the user can click, as shown in Fig. 4 (links 410) of Agrawal, reproduced here:

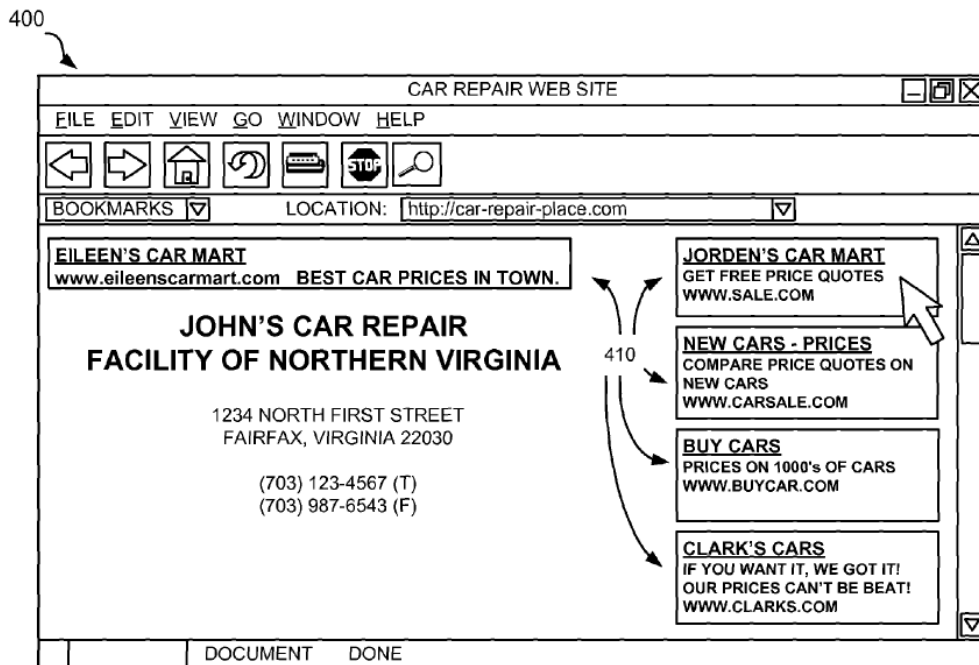


FIG. 4

(Ex. 1005, Fig. 4, 8:12-37)(Ex. 1002, ¶82).

Agrawal does not teach specifically that its advertising links can be links that would open mobile apps, but this functionality was provided by another Google patent publication, **Khanna**. (Ex. 1002, ¶83).

3. Overview of Khanna (mobile-app deeplinking)

A natural extension of Agrawal's ad-network is provided by **Khanna**. (Ex. 1002, ¶84). Khanna teaches a way to allow mobile-app deeplinking using links in ads that are served by an ad network (like Agrawal's). (Ex. 1034, ¶¶0031-0044)(Ex. 1002, ¶84). Like Agrawal's system, Khanna's system also has a central server, called the Advertisement Management System 110 ("AMS 110"), shown in Fig. 1, reproduced here:

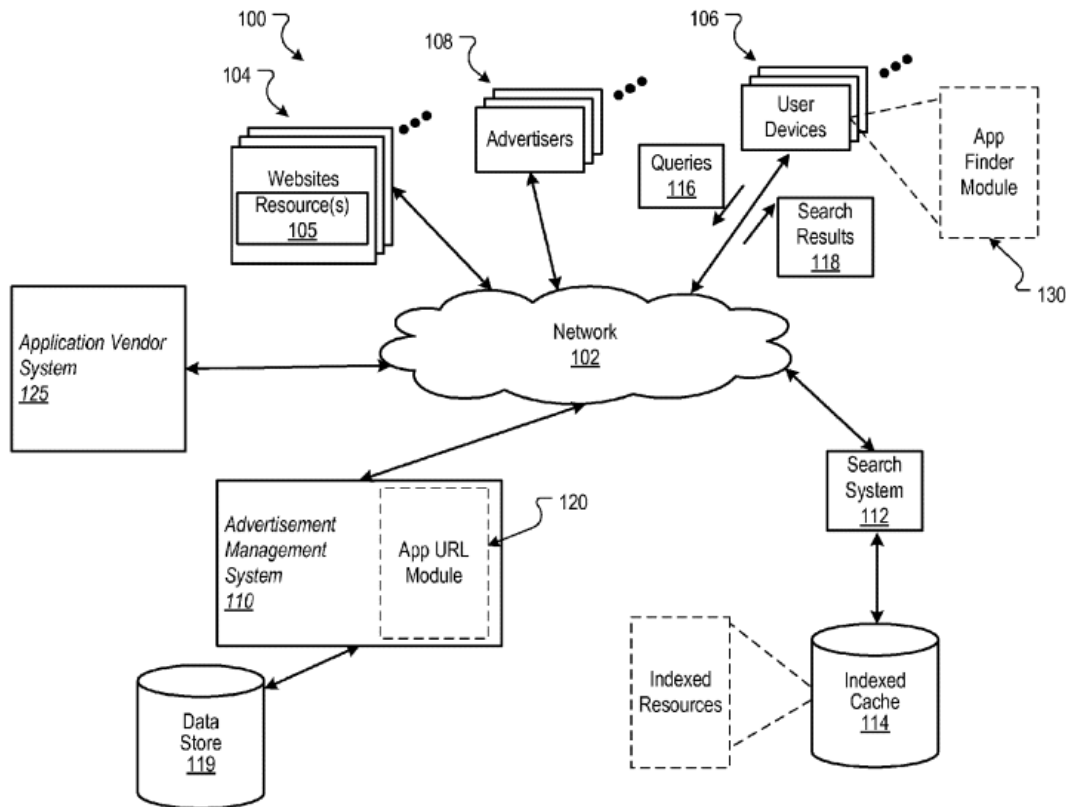


Fig. 1

(Ex. 1034, Fig. 1, ¶0031)(Ex. 1002, ¶84). The system also has user devices 106 (e.g., smartphones), which can download “resources” 105 (e.g., websites). (Ex. 1034, ¶¶0033-0035, 0103)(Ex. 1002, ¶84). The websites have advertisement slots that are intended to be filled with ads. (Ex. 1034, ¶0035)(Ex. 1002, ¶84). When a user views a webpage on a browser, the webpage—just as in Agrawal—makes a request to the central server for advertisements to fill the ad slots. (Ex. 1034, ¶0038)(Ex. 1002, ¶84). And just as in Agrawal, the central server sends back a response with the ads. (Ex. 1034, ¶0040)(Ex. 1002, ¶84).

To this basic ad-network system, Khanna adds mobile-app deeplinking

capability. (Ex. 1034, Abstract, ¶0025)(Ex. 1002, ¶85). Specifically, Khanna allows the ads to have links that specify a target mobile app, and a target product. (Ex. 1034, ¶0025)(Ex. 1002, ¶85). The links are generated when the central server selects an ad. (Ex. 1034, ¶0044)(Ex. 1002, ¶85). The central server uses an application URL module 120 (shown above in Fig. 1) to generate or modify the linked URL in the ad such that it will open a target mobile app to a desired starting point relating to the desired product (the product could be, for example, information about a song and artist, ¶0051). (Ex. 1034, ¶0044)(Ex. 1002, ¶85). Khanna also provides code on the client device to check whether the target application is installed (¶¶0028, 0067), and if so, to carry out the deeplinking function (¶¶0046-0047). (Ex. 1002, ¶85).

C. Rationale (Motivation) for the Combination

It would have been obvious to implement Oliver's business method by presenting links in Web ads, using an ad system such as Agrawal's, and to augment the system with Khanna's techniques to deeplink to mobile applications. (Ex. 1002, ¶86).

First, it was obvious to implement Oliver's method using the system of Agrawal (augmented by Khanna). (Ex. 1002, ¶87). Oliver's method would have appealed to businesses seeking a streamlined way to acquire contact information for potential customers, and to acquire the potential customer's consent to receive marketing communications and proof of possession of the mobile device. (Ex. 1011,

¶¶0004-0006, 0009)(Ex. 1002, ¶87).

A Person Having Ordinary Skill in the Art (“PHOSITA”) would have found the combination of Oliver with the system of Agrawal/Khanna advantageous. (Ex. 1002, ¶88). 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 targets ads to users likely to find the subject matter appealing. (Ex. 1005, 5:45-63)(Ex. 1002, ¶88). 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, ¶88). 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, ¶88). 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, ¶88). A PHOSITA would have recognized that Agrawal’s system provides electronic visual media in the form of advertisements, and advertisements have links. (Ex. 1005, 8:20-44, Fig. 4, 1:18-26)(Ex. 1002, ¶¶41-46 (explaining URIs), ¶88). 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, ¶88).

Second, it would have been obvious to augment Agrawal's system with Khanna. (Ex. 1002, ¶89). Both references arise from the same company¹ (Ex. 1005, Cover)(Ex. 1035), and (as described in §B) both broadly describe similar ad-network systems having user mobile devices that download webpages from publisher web sites, send ad requests to a central advertising management server, and receive ads in response. (Ex. 1002, ¶89).

Both references are intended for use with web-based advertising and teach targeting responsive ads to the content of a webpage. (Ex. 1005, 5:45-63)(Ex. 1034, ¶¶0044, 0003, 0038-0039)(Ex. 1002, ¶90). Agrawal describes an ad-network server that provides ads to webpages that can be read on mobile devices. (Ex. 1005, 4:39-5:2, 5:25-8:12)(Ex. 1002, ¶90). Khanna picks up at this point, operating on ads, to be incorporated into a webpage for reading on a mobile device, that are served from a server based on an ad request. (Ex. 1034, ¶¶0031, 0038-0039)(Ex. 1002, ¶90). Given the common origin of the patents and the natural technological relationship between the two references, it would have been obvious to a PHOSITA to extend

¹ See *Ex parte Mettke*, Appeal 2008-0610, 2008 Pat. App. LEXIS 6761, *43-*44 (BPAI Sept. 30, 2008).

Agrawal's capability with Khanna's. (Ex. 1002, ¶90). Both Khanna and Agrawal also express flexibility in the arrangement of the software and the user and server devices that make up their systems. (Ex. 1034, ¶¶0108, 0122, 0125)(Ex. 1005, 9:65-10:43, 4:23-35)(Ex. 1002, ¶90).

Additionally, a PHOSITA with Agrawal's system would have desired the mobile-app-deeplinking technology of Khanna, because Khanna states that "[a]llowing publishers or advertisers to create content items that deep-link directly to the content within their applications may lead to better user experience as well as create opportunities for the publisher to drive more business." (Ex. 1034, ¶0025)(Ex. 1002, ¶91). Similarly, a PHOSITA considering Khanna's system would have desired to use the system of Agrawal, in order to be able to serve advertisements and to track users and user interactions with advertisements (Ex. 1005, 1:27-33), as expressly desired by Khanna (Ex. 1034, ¶¶0043, 0004)(Ex. 1002, ¶91). A PHOSITA considering Khanna's system also would also have desired to use the system of Agrawal, in order to reduce losses caused by malicious activities. (Ex. 1005, 1:34-58)(Ex. 1002, ¶91).

It also would have been obvious to carry out the server-based software techniques of Oliver, Khanna, and Agrawal at Agrawal's advertising system 120 and/or servers 130, and specifically at a single server, as taught by Agrawal. (Ex. 1005, 4:28-35)(Ex. 1002, ¶92). 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, ¶92). Each of Oliver and Khanna, moreover, provides functionality with a server (like Agrawal's advertising system), in the form of Khanna's Advertisement Management System 110 and Oliver's Web service 430. (Ex. 1011, ¶0031)(Ex. 1034, ¶¶0031, 0038-0039)(Ex. 1002, ¶92). Oliver requires no specific hardware and teaches that its functionality can be implemented via a server. (Ex. 1011, ¶0031, Fig. 9). Oliver, Agrawal, and Khanna all express flexibility in the arrangement of their systems. (Ex. 1005, 4:8-35, 9:65-10:43, 5:3-21)(Ex. 1011, ¶¶0101, 0031, 0025, 0033, 0036)(Ex. 1034, ¶¶0108, 0120-0122)(Ex. 1002, ¶92). It would have been obvious to combine the functionalities of these references into a single "server" as that term is understood in the '074 patent (Ex. 1001, 4:13-5:47) in order to obtain the benefits of each system as described above. (Ex. 1002, ¶92).

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 (Oliver and Khanna), for their known functions, in order to improve Agrawal, with no unpredictable results. (Ex. 1002, ¶93).

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, ¶¶71).

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

The **differences between the prior art and the claims** are discussed 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, ¶99). 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, ¶99). A PHOSITA would have been able to make any necessary modifications to implement the Ground, and in particular would have been able to implement Khanna's and Agrawal's software techniques together with Oliver's teachings. (Ex. 1002, ¶99).

F. Analogous Art

Oliver, Agrawal, and Khanna are analogous art because they are in the same field as the '074 patent (Internet and mobile device technology). (Ex. 1001, 1:20-25)(Ex. 1011, Abstract, ¶¶0003-0006)(Ex. 1005, Abstract)(Ex. 1034, Abstract)(Ex. 1002, ¶100). Furthermore, the methods of Oliver, Agrawal, and Khanna 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, 1:20-42)(Ex. 1002, ¶100). *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. Petitioner has added numbering and lettering in brackets (*e.g.*, 1[a], [1b]) to certain claim limitations, 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 1

“1[a]. A method, comprising:

The combination renders obvious **a method comprising** the steps outlined below. (Ex. 1002, ¶102).

“[1b] receiving, from at least one web server, an integration tag included in a webpage;”

Agrawal’s client devices request webpages (called “documents”) that contain

integration tags. (Ex. 1002, ¶103)

(a) receiving, from at least one web server...a webpage

Agrawal's client devices 110 (Fig. 1) download webpages ("documents") from the Internet. (Ex. 1005, 3:11-12, 3:46-55, 5:29-32)(Ex. 1002, ¶104).

Webpages downloaded from the Internet are obviously downloaded from "web servers", because that was standard functioning of the Internet. (Ex. 1002, ¶105). In Agrawal, there are two kinds of web servers disclosed: server(s) 130 and advertising system 120, shown in Fig. 1 of Agrawal, reproduced below with added red-dashed boxes:

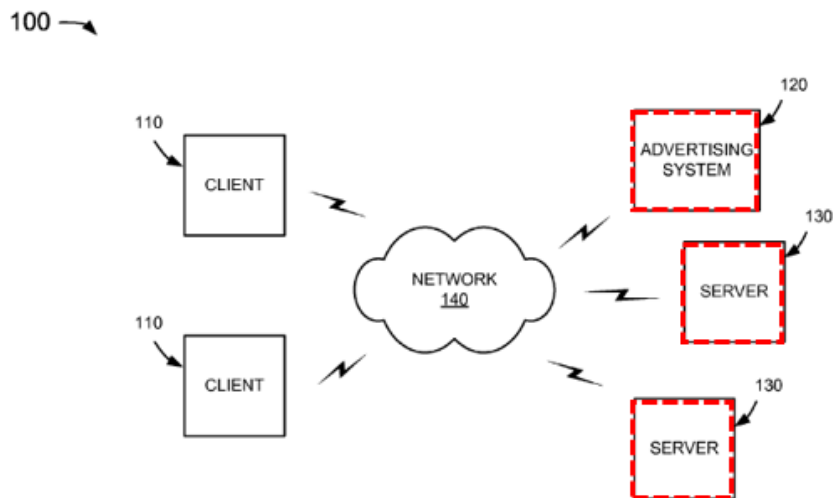


FIG. 1

(Ex. 1005, Fig. 1)(Ex. 1002, ¶105).

Servers 130 are **web servers**. (Ex. 1005, 3:62-4:35)(see also Ex. 1006, 011:1-

26).² Specifically, Agrawal teaches that “servers 130 may include server entities that gather, process, search and/or maintain documents in a manner consistent with the principles of the invention” (Ex. 1005, 4:18-20), where “a common document is a web page” (Ex. 1005, 3:51-52). Agrawal’s advertising system 120 is also a **web server**. (Ex. 1005, 4:16-35)(“Advertising system 120 may include a **server** entity that maintains and **provides** advertising links.”)(Emphasis added)(Ex. 1002, ¶106).

Agrawal makes clear that the servers 130 and the advertising system 120 can be combined into a single server. (Ex. 1005, 4:28-35)(Ex. 1002, ¶107). It would have been obvious to carry out the server-based software techniques of Oliver, Khanna, and Agrawal at a single server as taught by Agrawal for the reasons set forth above in the section entitled “Rationale (Motivation) for the Combination”. (Ex. 1002, ¶107).

(b) integration tag included in a webpage

The combination renders obvious **receiving**, from at least one web server, **an integration tag included in a webpage**. (Ex. 1002, ¶108). In Agrawal, an **integration tag** is code executed by a user’s (client device 110’s) browser when the

² Citations to Ex. 1006 (the incorporated ’900 application) 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).

user's device **receives** a webpage from a web server, *i.e.*, the combined server 130 and advertising system 120. (Ex. 1005, 4:28-35, 5:29-39, 4:10-35)(*see also* Ex. 1006, 026:29-32, 011:7-26, 022:15-023:5, 022:1-6, 021:6-022:21, 013:1-3, 010:26-31, Fig. 4, Fig. 2, Fig. 1)(Ex. 1002, ¶108).

Agrawal explains that webpages often included embedded code in the form of JavaScript. (Ex. 1005, 3:51-55)(Ex. 1002, ¶109). Such JavaScript code can be embedded in Agrawal's pages when a user accesses them:

“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, ¶110). The “code” is the **integration tag**. (Ex. 1002, ¶110). Note that, in the quote above, the referenced “browser” is a web browser on a consumer user device that displays and interprets web pages accessed by the user. (Ex. 1005, 1:18-24, 5:64-6:3, 7:1-3, 8:13-37, Figs. 1 and 4)(Ex. 1002, ¶110).

Agrawal's code is an **integration tag** because it performs the functions of an integration tag as that term is used in the '074 patent. (Ex. 1002, ¶111)(*compare* Ex.

1001, 4:63-66, 11:22-29)(*see also* discussion under limitation [1d] below for the functions carried out by Agrawal's code limitations).

Because Agrawal teaches that webpages often include embedded instructions (Ex. 1005, 3:51-55) and that the user's browser "executes a piece of code" when it accesses a webpage (Ex. 1005, 5:29-39), a PHOSITA would have understood, and found it obvious, that the code (integration tag) is **included in a webpage**. (Ex. 1002, ¶112). As Agrawal indicates, including JavaScript code in a webpage was a standard practice in the relevant timeframe. (Ex. 1005, 3:51-55)(Ex. 1002, ¶112).

Furthermore, as explained above, Agrawal incorporates by reference (Ex. 1005, 5:58-63) the '900 application (Ex. 1006), which teaches specific examples of code (Ex. 1006, 026:18-028:31) that are "provided to content servers for insertion into all their Web pages." (Ex. 1006, 026:031-034)(*see also* Ex. 1006, 016:30-107:11)(Ex. 1002, ¶113). These tags disclosed in the incorporated '900 application perform the same primary function as the code in Agrawal's specification: generating a request for the servers to provide an advertisement. (Ex. 1002, ¶113)(Ex. 1006, 026:18-028:31)(Ex. 1005, 5:37-40, Fig. 3). This further supports the obviousness of including Agrawal's code in a webpage. (Ex. 1002, ¶113)

"[1c] displaying the webpage using a web browser application of a mobile device;"

Agrawal's client devices 110 can be, for example, "a wireless telephone" or

“a personal digital assistant (PDA),” which are **mobile devices**. (Ex. 1005, 4:10-16)(Ex. 1002, ¶114). These mobile devices have **web browser applications** that **display webpages** accessed by the user. (Ex. 1005, 1:18-58, 3:11-25, 5:29-39, 5:64-6:3, 6:30-46, 7:1-3, 8:13-37, Figs. 1 and 4)(Ex. 1002, ¶114). Agrawal teaches sending advertisements to the **mobile device** for **display** in a **webpage using a web browser application**, thus also demonstrating display of the webpage itself. (Ex. 1005, 8:20-32, Fig. 4)(Ex. 1002, ¶114).

“[1d.1] sending, from the mobile device, to the at least one web server, and in response to the integration tag executing, (1) a mobile device identifier that identifies the mobile device, and”

The combination renders this limitation obvious. (Ex. 1002, ¶115)

(a) a mobile device identifier that identifies the mobile device

First, Agrawal teaches a **mobile device identifier that identifies the mobile device**. Petitioner initially notes that the '074 patent describes the mobile device identifier as including user agent information, platform or operating system type, or an identifier such as a phone number, user impression data, “and/or any information identifying the user and/or user mobile device.” (Ex. 1001, 18:34-41)(Ex. 1002, ¶116).

Agrawal teaches that its mobile devices send a **mobile device identifier**. (Ex. 1005, 5:45-6:31, 8:20-44)(Ex. 1002, ¶117). The mobile device identifier includes “a type of operating system running on client 110” (Ex. 1005, 6:24-25), “the type of

browser being used, the version of the browser being used” (Ex. 1005, 6:4-5), “an Internet Protocol (IP) address associated with client 110” (Ex. 1005, 6:21-22), and “information relating to the user that uses client 110” (Ex. 1005, 6:26-27). (Ex. 1002, ¶117). Furthermore, as Dr. Houh explains, the operating system and browser information for the mobile device is the “user agent” information referred to by the ’074 patent as a type of mobile device identifier. (Ex. 1002, ¶118)(Ex. 1001, 18:34-41).

(b) sending, from the mobile device, to the at least one web server, and in response to the integration tag executing

Agrawal also teaches and renders obvious that the mobile device identifier is **sent from the mobile device to the at least one web server in response to the integration tag executing**. This works as follows: when the user’s browser accesses a webpage, the user’s browser executes Agrawal’s “piece of code” (integration tag), as discussed above under limitation [1b]. (Ex. 1005, 5:25-44)(Ex. 1002, ¶¶119-121). The execution of the integration tag produces an advertisement query request, which is a request—sent from the mobile device to the advertising system 120—for the system 120 to provide a suitable advertisement for the webpage. (*Id.*). Together with this advertisement query request, the mobile device sends the mobile device identifiers described above. (Ex. 1005, 2:14-15, 3:29-42, 6:30-46, Fig. 3, step 320, 5:64-6:46, 5:3-21, 10:5-9)(Ex. 1002, ¶¶119-121).

The advertisement query request is an HTTP request (*i.e.*, a web request)

directed to advertising system 120 (**at least one web server**) as a direct result of the **execution** of the “piece of code” (**integration tag**). (Ex. 1005, 6:40-43, 5:29-39, 4:16-22, 5:3-65, Fig. 3, 10:3-6)(Ex. 1002, ¶122). The data collected about the mobile device is also “collected with the advertisement query request”, from which a PHOSITA would have understood that piece of code is collecting the information to include with the advertisement query request to be sent to the advertising system 120. (Ex. 1005, 2:14-15, 3:29-42, 6:30-46)(Ex. 1002, ¶122). The advertising system 120 receives the collected information corresponding to the mobile device identifier. (Ex. 1005, Fig. 3, step 320, 5:64-6:46, 5:3-21, 10:5-9)(Ex. 1002, ¶122).

“[1d.2] “[sending, from the mobile device, to the at least one web server, and in response to the integration tag executing,] . . (2) a request to retrieve an identifier associated with at least one of a product or a service presented via the webpage;”

The combination renders this limitation obvious. (Ex. 1002, ¶123).

(a) sending, from the mobile device, to the at least one web server, and in response to the integration tag executing

As explained under claim limitation [1d.1], Agrawal teaches that when a user’s **mobile device** loads a webpage, the code (**integration tag**) **executes** and thereby causes an advertisement request query to be generated. (Ex. 1005, 5:29-39)(Ex. 1002, ¶124).

(b) a request to retrieve an identifier

Agrawal’s advertisement query request is also a **request to retrieve an**

identifier associated with at least one of a product or a service presented via the webpage. This works as follows: when a user downloads a webpage, Agrawal's "piece of code" executes, causing the user's devices to provide information about the webpage, in which the "piece of code" is executing, to the advertising system 120. (Ex. 1005, 5:45-63, *see also* 3:11-18, 8:20-44)(Ex. 1002, ¶¶125-127). The advertising system 120 then responds with an ad associated with a "unique identifier", which is in turn associated with a product or service offered by the webpage. (Ex. 1002, ¶¶125-127). Agrawal explains:

"Each advertising link that is returned in response to the advertisement query request 40 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, *see also* 6:55-58)(Emphasis added)(Ex. 1002, ¶¶125-127). 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. (Ex. 1002, ¶¶125-127). Thus, the advertisement query request is a **request to retrieve an identifier**. (Ex. 1002, ¶¶125-127). Agrawal also specifically states that "the advertisement click request"—which is *later sent from* the mobile device—"may

include the unique identifier that is associated with the selected advertising link,” which demonstrates that the unique identifier is **retrieved** by the advertising system 120 and then sent to (**retrieved** by) the mobile device accessing the webpage. (Ex. 1005, 6:57-58)(Ex. 1002, ¶¶125-127).

(c) associated with at least one of a product or a service presented via the webpage

Agrawal’s unique identifier is **associated with at least one of a product or a service presented via the webpage** for two reasons. First, Agrawal specifies that the unique identifier “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)(Ex. 1002, ¶128). This indicates that the unique identifier is associated with the document (the webpage). (Ex. 1002, ¶128). The document, furthermore, can be a document offering a product or service, such as “buying flowers over the Internet” or “car repair” which are at least one of a product or a service. (Ex. 1005, 5:52-54, 8:20-27, Fig. 4)(Ex. 1002, ¶128). This is shown, for example, in Fig. 4, reproduced here:

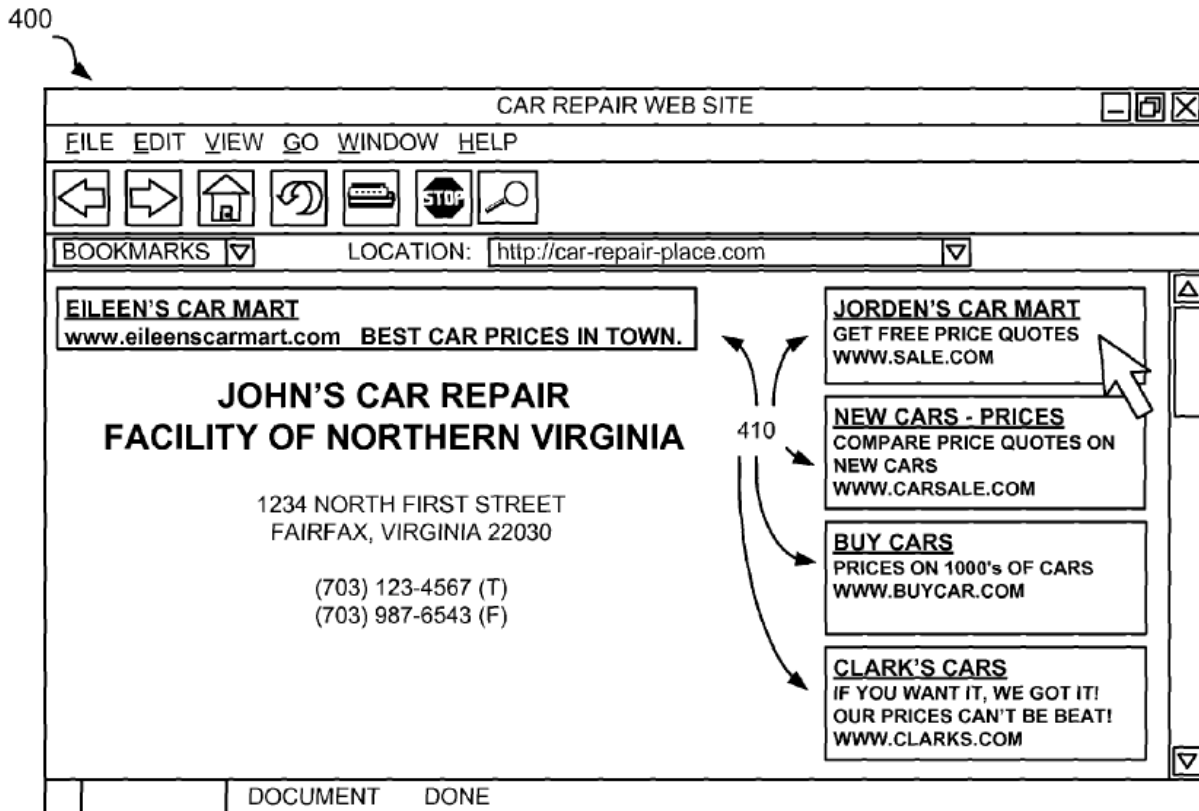


FIG. 4

(Ex. 1005, Fig. 4, 8:13-27)(Ex. 1002, ¶128). Because the unique identifier is associated with the webpage itself, it is also associated with a product or service presented via the webpage. (Ex. 1002, ¶128).

Second, the unique identifier is associated with advertising links returned by the advertising system 120 in response to the advertisement query request. (Ex. 1005, 5:39-44)(Ex. 1002, ¶129). The advertising links are associated with products and services. (Ex. 1005, Fig. 4, 8:13-27)(Ex. 1002, ¶129). Because the advertising links are incorporated into the webpage, the advertising links are also associated with at least one of a product or a service presented via the webpage, in turn making the

unique identifier **associated with at least one of a product or a service presented via the webpage.** (Ex. 1002, ¶130). Specifically, the unique identifier is correlated with a unique transaction and thus also correlated with the content associated with that unique transaction. (Ex. 1005, 5:39-44)(Ex. 1002, ¶130).

“[1e] receiving, at the mobile device, from the at least one web server, and in response to sending the mobile device identifier and the request to retrieve the identifier, a first signal causing a frame to be displayed with the webpage via the web browser application, the frame including a promotional message associated with joining a subscription list;”

The combination renders this limitation obvious by carrying out Oliver’s business method using the technology of Agrawal and Khanna. (Ex. 1002, ¶131).

(a) receiving, at the mobile device, from the at least one web server, and in response to sending the mobile device identifier and the request to retrieve the identifier, a first signal

In response to the ad query request discussed under limitation [1d], advertising system 120 and/or servers 130 (**at least one web server**), send, and the **mobile device receive[s]**, for display together with the web page that the user accessed, an ad that displays a link. (Ex. 1005, 3:11-18, 8:20-32, 3:56-4:9, 5:25-63, 8:13-37, 1:18-21)(Ex. 1002, ¶¶132-133). Agrawal’s Fig. 4, reproduced again below, shows a webpage with several advertising links 410:

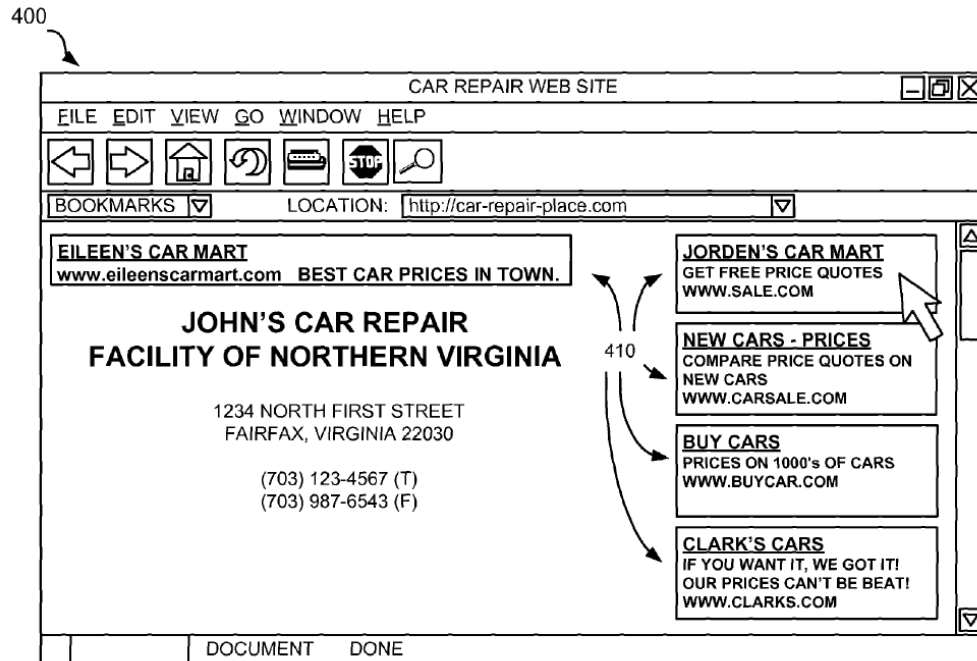


FIG. 4

(Ex. 1005, Fig. 4, 8:13-30)(Ex. 1002, ¶133). Advertising system 120 and/or servers 130 thus send, and the mobile device receive[s], a **first signal** over a network such as the Internet which caus[es] a **promotional message to be displayed with the webpage via the web browser application**. (Ex. 1002, ¶133). Petitioner notes that in response to an ad request, Khanna similarly teaches returning an advertisement (called a “content item”). (Ex. 1034, ¶¶0035-0039)(Ex. 1002, ¶133).

(b) causing a frame to be displayed with the webpage via the web browser application, the frame including a promotional message associated with joining a subscription list

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

As taught in Agrawal’s expressly incorporated ’900 application (Ex. 1006), the **integration tag** (code) can cause a **promotional message** to display in an iframe

(inline frame), which is a **frame**. (Ex. 1002, ¶¶135-138). An iframe defines a region within the document in which a browser can display a separate embedded document. (Ex. 1002, ¶¶135-138). As Dr. Houh explains, an iframe was a well-known HTML tag frequently used in the relevant timeframe to display ads. (Ex. 1002, ¶¶135-138)(Ex. 1012, pp. 191, 442). The '900 application incorporated into Agrawal provides the following example iframe tag used together with JavaScript to display advertising:

```
<iframe id='google_ads_frame' src='about:blank' hight=80 ... >
...
content of the page
....
<script>
extract important key words like title, meta tags, headers etc, till we
have reached 1K byte limit.
frames['google_ads_frame'].src=http://pagead.google.com/ads?url=<
url>&contents=word1+word2+....
</script>
```

(Ex. 1006, 026:18-028:31, *see also* Figs. 9A-9C)(Ex. 1002, ¶¶135-138). As Dr. Houh explains, the script (denoted with <script>) sets the source of the iframe to the Google advertising server located at <http://pagead.google.com/ads>. (Ex. 1002, ¶¶135-138). To this source URL is added the information collected by the script in the form of parameters. (Ex. 1002, ¶¶135-138). Setting the source of the iframe to the URL “instructs the browser to reload the frame.” (Ex. 1006, 026:30-34)(Ex. 1002, ¶¶135-138). The reloading of the frame causes an advertisement request to issue together with information collected by the script provided as parameters. (Ex. 1002, ¶¶135-138). The request elicits a response with an advertisement, which

caus[es] the frame including a promotional message to be displayed with the webpage via the web browser application. (Ex. 1002, ¶¶135-138). A PHOSITA would have understood how to use iframes predictably, and would have found it obvious to use an iframe to display a promotional message (ad) consistent with the other teachings of Agrawal because this was a known technique for displaying ads that would have been implementable without unpredictable results. (*See, e.g.*, Ex. 1005, 10:18-29, Fig. 4)(Ex. 1002, ¶¶135-138). *See KSR*, 550 U.S. at 417-21.

The combination renders obvious that **the advertisement includ[e] a promotional message associated with joining a subscription list.** Petitioner first notes that the content of an advertisement is “printed matter” that is unrelated to the technical functioning of the alleged invention (Ex. 1002, ¶139), and thus is not a limiting part of the claim. *See In re Distefano*, 808 F.3d 845, 851 (Fed. Cir. 2015).

The content, moreover, would have been obvious. 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, ¶140). 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)(Ex. 1011, Figs. 8-10, ¶¶0051-0054)(Ex. 1002, ¶140). 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, ¶140). Oliver also teaches that its purpose is “lead generation” (Ex. 1011, Title), including the acquisition of contact information for the use in “targeted marketing efforts”. (Ex. 1011, ¶0006, *see also* ¶¶0003-0005, 0046, 0050-0052)(Ex. 1002, ¶140). Using and offering a subscription list for such purposes was a standard advertising technique in the relevant timeframe. (Ex. 1002, ¶140).

“[1f] sending, to the at least one web server, an indication of a first user interaction with the promotional message;”

Agrawal teaches that a user may select an “advertising link” by clicking on it. (Ex. 1005, 1:18-30, 3:11-25, 3:56-58)(Ex. 1002, ¶141). This click is **a first user interaction with the promotional message**. (Ex. 1002, ¶141). A user click generates an “advertisement click request” which is an **indication** of that first user interaction. (Ex. 1005, 6:47-58)(Ex. 1002, ¶141). This advertisement click request is **sen[t]** to advertising system 120 (**at least one web server**), which can compare the advertisement click request to the previously-received advertisement query request to verify the legitimacy of the advertisement click request. (Ex. 1005, 10:4-13, 7:45-8:13)(Ex. 1002, ¶141).

“[1g.1] receiving, from the at least one web server and in response to at least one of (1) the integration tag executing or (2) the indication of the first user interaction, a uniform resource identifier (URI) that deeplinks to and causes the mobile device to automatically (1) switch

from rendering the web browser application to rendering a text messaging application and”

The combination renders this limitation obvious. Agrawal teaches that “[a] ‘link,’ as the term is used herein, is to be broadly interpreted to include any reference to/from a document from/to another document or another part of the same document”, where a “document is to be broadly interpreted to include any machine-readable and machine storable work product.” (Ex. 1005, 3:46-58)(Ex. 1002, ¶142). Thus, Agrawal teaches that its advertisements can have “links” in a broad sense, which would include URIs that cause mobile-app deeplinking. (Ex. 1002, ¶142).

While Agrawal does not specifically teach using mobile-app deeplinking, Khanna, another publication from Google, teaches mobile-app deeplinking from ads served from an ad server. (*see* Overview, above). Khanna would have been obvious to use for the reasons provided above under the section entitled “Rationale (Motivation) for the Combination”. (Ex. 1002, ¶143).

Specifically, Khanna’s Advertisement Management Server 110 (implemented at Agrawal’s advertising system 120 in the combination) (**at least one web server**), receives ad requests when users browse web sites (just as in Agrawal). (Ex. 1034, ¶¶0035-0039)(Ex. 1002, ¶144). In response to an ad request, Khanna teaches returning an advertisement (called a “content item”). (Ex. 1034, ¶¶0035-0039)(Ex. 1002, ¶144). In addition, Khanna teaches that the content item (advertisement) can be augmented by defining and sending **a uniform resource identifier (URI) to the**

mobile device, where the **URI deeplinks** to an application which is different from the user's web browser. (Ex. 1034, ¶¶0043-0044, *see also* ¶¶0025-0030, 0051, 0038-0041, Fig. 2)(Ex. 1002, ¶144). Khanna explains:

“The advertisement management system 110 may also include an application URL module 120. The application URL module may be used to generate or modify a formatted URL for a content item....In some implementations, the **application URL module may generate a deep-linking application specific landing page URL** based on unformatted data elements associated with the content item received from an advertiser 108.”

(Ex. 1034, ¶0044)(Emphasis added)(Ex. 1002, ¶144). A URL (as used in Khanna) is simply a more-specific form of a **URI**. (Ex. 1002, ¶144). Khanna's URIs **deeplink** to an application which is different from the user's web browser because the second application is a specific application associated with the content item, and the browser first checks to see if the application is installed before launching it. (Ex. 1034, ¶¶0067, 0005)(Ex. 1002, ¶144).

To **switch from rendering the web browser application to rendering**³ another application, Khanna teaches using “**deep-linking**” technology. (Ex. 1034,

³ “Rendering” here simply means drawing the application screen on a display device. (Ex. 1002, ¶145).

¶¶0015, 0025-0030, 0044)(Ex. 1002, ¶145). In the combination, the second application is a **text messaging application**, as taught by Oliver. (Ex. 1011, ¶¶0027-0029, Fig. 2, ¶¶0051, 0012, 0033, 0035, 0037, cls. 7, 14)(*see also* Ex. 1034, ¶0084)(Ex. 1002, ¶145).

Khanna teaches that when a user clicks on a portion of the content item (advertisement) that activates the URI, the URI **causes the mobile device to automatically switch** from a first mobile application to a different mobile application. Khanna states:

“When a user selects (*e.g.*, clicks on) the content item, if the application is installed, the application may be launched with the associated product related data elements as inputs so that the content (*e.g.*, a landing page) related to the product is displayed in the application.”

(Ex. 1034, ¶0027)(Ex. 1002, ¶146). Khanna teaches that this transition is **automatic** after detecting user input. (Ex. 1034, ¶¶0006, 0008, 0010, 0013-0014, 0046, 0062-0063)(Ex. 1002, ¶146). Khanna states:

“The application may be launched **automatically** when the application is determined to be previously installed.... In some implementations, the launch may be initiated by user input (*e.g.*, input received through pointing device 304).”

(Ex. 1034, ¶0063)(Emphasis added)(Ex. 1002, ¶146). Oliver likewise teaches the

use of links (*e.g.*, using the smsto: schema) to cause a transition to a text-messaging app. (Ex. 1011, ¶¶0027-0029)(Ex. 1002, ¶146).

It would further have been obvious to cause a user click on an advertising link in Agrawal (*i.e.*, a **promotional message**) to **switch from rendering the web browser application to rendering a text messaging application**, as taught by Oliver, for the reasons provided above under the section entitled “Rationale (Motivation) for the Combination”. (Ex. 1011, ¶¶0027-0029, Fig. 2, ¶¶0051, 0012, 0033, 0035, 0037, cls. 7, 14)(Ex. 1002, ¶147). Such a use of URIs was well-known in the relevant timeframe. (Ex. 1002, ¶147).

As explained under claim limitation [1b], Agrawal’s integration tag executing results in the generation of an advertisement query request. (Ex. 1002, ¶148). As explained under claim limitation [1d.2], an advertising link is returned in response to an advertisement query request. (Ex. 1002, ¶148). Because, in the combination, Agrawal’s advertisement link includes a URI, the **URI is receiv[ed] from the at least one web server and in response to the integration tag executing**. (Ex. 1002, ¶148).

“[1g.2] [a uniform resource identifier (URI) that deeplinks to and causes the mobile device to automatically] . . . (2) generate a text message with a pre-populated phone number and a pre-populated message body containing a request to join the subscription list;”

The combination renders this limitation obvious by carrying out Oliver’s

business method using the functionality of Agrawal and Khanna. (Ex. 1002, ¶149). As explained above under limitation [1g.1], Khanna describes deeplink URIs for inclusion into an advertisement, where the deeplinks (when clicked by a user) cause the mobile device to transition to a different application. (Ex. 1034, ¶¶0044-0046)(Ex. 1002, ¶150). This different application, moreover, can receive input data that was encoded into the link. (Ex. 1034, ¶0061)(Ex. 1002, ¶150). For example, Khanna states:

“[I]f the application was previously installed 215, **the application may be launched 230 with a data element identifying a product** associated with the content item as an input parameter. For example, where the content item includes **a URL with data elements that specify a song**, the application may start up by loading a landing page by an advertiser’s server that displays information regarding the song and an icon that when selected will allow the user to complete a purchase transaction that will result in the download of the song to the user’s device.”

(Ex. 1034, ¶0061)(Emphasis added)(Ex. 1002, ¶150). It is clear that the data elements are incorporated into the deeplink URI, such that they are configured to guide the target application to a specific starting point, with the correct information. (Ex. 1034, ¶0044)(Ex. 1002, ¶150). Oliver similarly teaches using URIs to transition to a text-messaging app, where the URI encodes information into the URI itself in order to pre-populate a text message. (Ex. 1011, ¶¶0027-0029)(Ex. 1002, ¶150).

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 Khanna and Agrawal. (Ex. 1002, ¶151). Oliver’s business method includes using application deeplinks to **automatically generate a text message with a pre-populated phone number and a pre-populated message body**. (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 text message (in a text-messaging application) having an address 210 and a message body 220:

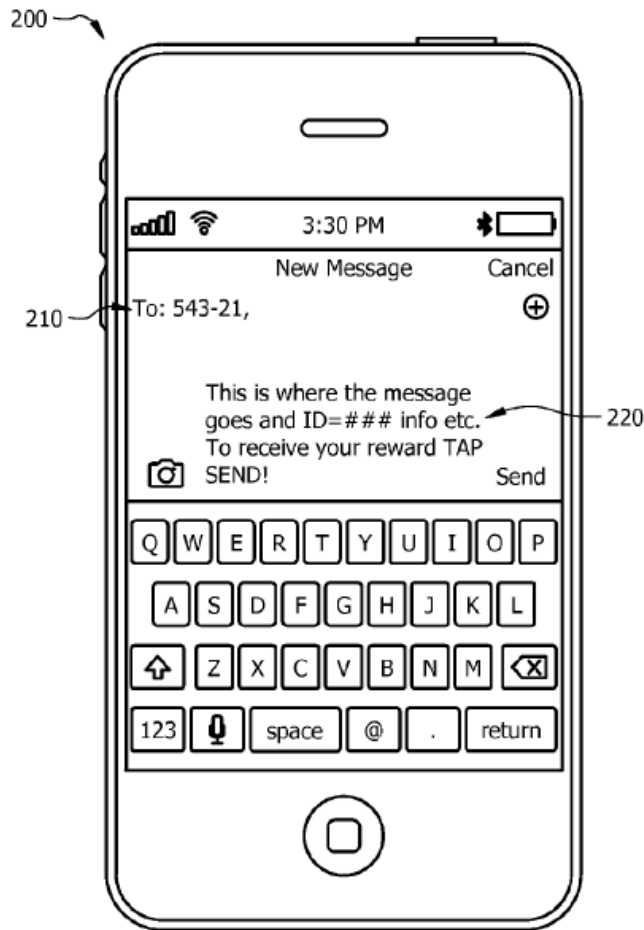


FIG. 2

(Ex. 1011, Fig. 2, ¶¶0027-0030, 0012)(Ex. 1002, ¶151). The address can be a destination number or short code (**phone number**). (Ex. 1011, ¶¶0008, 0013, 0026, 0029, Fig. 3)(Ex. 1002, ¶151).

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, ¶152). This was a well-known form of link for deeplinking to an SMS (text messaging) application. (Ex. 1002, ¶¶152-153)(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, ¶¶152-153). Using Khanna’s deeplinks to activate a prepopulated text message as taught conceptually by Oliver would result in **automatically generat[ing] a text message with a pre-populated phone number and a pre-populated message body.** (Ex. 1002, ¶¶152-153).

It would further be obvious for the **pre-populated message body to contain[] a request to join the subscription list** for the reasons set forth under claim limitation [1e]. (Ex. 1002, ¶154).

“[1h] sending the text message including the message body prepopulated with the request to join the subscription list in response to a second user interaction with the text messaging application such that the mobile device is subscribed to the subscription list in response to the text message being sent to the pre-populated phone number; and”

As explained under claim limitation [1g.2], the combination renders obvious **generating a text message with a pre-populated phone number and a pre-populated message body containing a request to join a subscription list.** (Ex. 1002, ¶155). 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, ¶155). A PHOSITA in the relevant timeframe would have understood and found obvious that the tap on the “send” button of a messaging application would trigger **sending** of the **text message** to the **pre-populated destination phone number**. (Ex. 1002, ¶155). This tapping send is a **second user interaction with the text messaging application**. (Ex. 1002, ¶155).

Oliver teaches that the reception of the prepopulated text message **subscribe[s] the mobile device** in a promotion. (Ex. 1002, ¶156). For example, the message can “provide streamlined entry into sweepstakes and other giveaways or contest[s].” (Ex. 1011, ¶0047, Figs. 8-10, rn 825-875, ¶¶0051-0054, 0025)(Ex. 1002, ¶156). It would be obvious that **in response to a text message** containing a request about a product or service, (*e.g.*, to receive coupons or discounts, Ex. 1011, ¶0025) (*see* claim limitation [1g.2]) that the **mobile device** be in fact **subscribed to the subscription list** in order to facilitate “targeted marketing” as taught by Oliver. (Ex. 1011, ¶0006)(Ex. 1002, ¶156).

“[1i] receiving an installment of a subscription associated with the subscription list without sending an opt-in communication after sending the text message containing the pre-populated message body.”

As shown in Figs. 8-10 of Oliver, enrollment in a promotion takes place without receiving any additional information from the mobile device. (Ex. 1011, Figs. 8-10, ¶¶0051-0054, ¶0009)(Ex. 1002, ¶157). 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, ¶157). Accordingly, it would be obvious that enrollment in and participation in the subscription is completed **without sending an opt-in communication after sending the text message containing the pre-populated message body**. This is because no further communications are needed in order enroll and participate in the subscription. (See also Ex. 1004, p. 123)(Ex. 1002, ¶157). 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.”).

It would also have been obvious to arrange the combination to cause **receiving an installment of a subscription associated with the subscription list** after having been enrolled and without any further action by the mobile device user. (Ex. 1002, ¶158). For example, Oliver teaches sending a reply message to the user’s mobile device which can include “coupons or discount codes delivered to the user either by response message or a later time, instant-win game chances, sweepstakes entries, . . . registration of a purchased product, etc.” (Ex. 1011, ¶¶0025, 0039-0040, 0045, 0050, 0053)(Ex. 1002, ¶158). A PHOSITA would recognize that a reply message could be used to deliver **an installment of a subscription associated with the subscription list** to the mobile device. (Ex. 1002, ¶158).

CLAIM 2

“2. The method of claim 1, wherein a size of the frame relative to a size of the webpage is configurable.”

The combination renders obvious making the **size of the frame relative to a size of the webpage** (*i.e.*, the size of the advertisement) **configurable**. (Ex. 1002, ¶159). The '900 application, which is incorporated into Agrawal, teaches that ad serving parameters include “an **absolute position** of the ad on the page on which it is served, a **position** (**spatial** or temporal) of the ad relative to other ads served, an **absolute size of the ad**, [and] a **size of the ad relative to other ads**.” (Ex. 1006, 015:28-016:16)(Emphasis added)(*see also* Ex. 1006, 042:3-20, 013:24-32, 006:16-18, 010:29-31)(*see* Ex. 1005, Fig. 4)(depicting ads of different sizes). The presence of programmable parameters indicates configurability. (Ex. 1002, ¶159). The incorporated '900 application further explains that the system “transmit[s] information about the ads and how, when, and/or where the ads are to be rendered (e.g., **position**, click-through or not, impression time, impression date, **size**, conversion or not, etc.)” (Ex. 1006, 011:18-26, 012:6-20, 08:28-31, 015:28-016:16, 042:3-19)(Emphasis added). As set forth above under claim limitation [1e], the '900 application further teaches that advertisements can be displayed within an iframe, which is a **frame**. (Ex. 1006, 026:17-028:31, 029:11-030:27, 031:13-15, 042:3-19, 043:4-14, Fig. 9A)(*see also* Ex. 1012, 165, 191, 442)(Ex. 1002, ¶160). The examples of iframes shown in the '900 application have configurable sizing

parameters such as “height”. (Ex. 1006, 026:18-028:31)(Ex. 1002, ¶160). Agrawal thus discloses that the **sizes** of ads (and thus the **frames** in which ads are presented) are **configurable**. (Ex. 1002, ¶160). A PHOSITA would understand that these sizes are configurable **relative to a size of the webpage** because changing the size of the frame containing the ad changes its size relative to the size of webpage, and because it was obvious to size ads to account for differences in display sizes experienced by each user. (Ex. 1002, ¶160). It was also known how to display ads of different sizes and it was standard practice to have ads of different sizes on a given webpage where advertisers could pay different amounts for different size ads. (*See, e.g.*, Ex. 1012, pp. 165-169, 178, 284-285)(Ex. 1002, ¶160).

CLAIM 3

“3. The method of claim 1, wherein the mobile device is subscribed to the subscription list (1) with no user input other than the first user interaction and the second user interaction and (2) without the text messaging application being redirected to a different application after the text message is sent.”

The combination renders obvious claim 3. As set forth under claim 1, the mobile device is subscribed to the subscription list after only two user interactions—the **first user interaction** (clicking on an advertisement) and the **second user interaction** (sending the text message). (Ex. 1002, ¶161). Accordingly, **the mobile device is subscribed to the subscription list with no user input other than these two interactions**. (Ex. 1002, ¶161)(*See also* Ex. 1004, pp. 122-123). *See AC Techs.*,

912 F.3d at 1367.

Independently, it was obvious for the **text messaging application** not to be **redirected to a different application after the text message is sent** so that the user can, for example, view a reply or confirmation message, and/or the **installment of a subscription**. (See, e.g., Ex. 1011, ¶¶0025, 0039, 0050, 0051)(see claim limitation [1i])(Ex. 1002, ¶162).

CLAIM 4

“4. The method of claim 1, wherein the mobile device identifier is based on a user agent field associated with the web browser application.”

See above, claim 1, limitation [1d.1]. Agrawal teaches obtaining **user agent** information such as browser type, client (mobile device) type, and operating system information). (Ex. 1005, 5:45-6:46, 8:20-33)(Ex. 1002, ¶163). As Dr. Houh explains, “user agent” refers to any of a variety of data about the user’s device and software that is available to webpages and servers interacting with the user’s device. (Ex. 1002, ¶163). It would have been obvious to access user agent data using JavaScript executed by a browser by using, for example, the Navigator object’s userAgent field. (Ex. 1002, ¶163)(citing Ex. 1021, pp. 364-365, 992)(Ex. 1016, pp. 324-338). It would have been obvious to do so, for example to identify the operating system of the mobile device to configure a URI, as explained under claim 5, because the user agent states the identity of the operating system directly. (*Id.*)(Ex. 1002,

¶163).

CLAIM 5

“5. The method of claim 1, wherein: the mobile device identifier identifies a first operating system executing on the mobile device; and the URI is compatible with the first operating system and not a second operating system different from the first operating system.”

See claim 1, limitation [1.d1] and claim 4. As set forth under claim 4, Agrawal’s user data (**the mobile device identifier**) can **identify the operating system executing on the mobile device**. (Ex. 1005, 5:45-6:46, 7:19-28, 8:20-33)(Ex. 1002, ¶164).

The combination further renders obvious that **the URI is compatible with the first operating system and not a second operating system different from the first operating system**. (Ex. 1002, ¶165). It was known in the relevant timeframe that different operating systems could have different URI schema for text messaging. (Ex. 1002, ¶165). It would have been obvious to configure the URI such that it is specifically compatible with the operating system executing on the mobile device, because otherwise the URI would not work correctly. (Ex. 1002, ¶165)(See also Ex. 1004, pp. 122-123)(Ex. 1002, ¶165). If a URI is compatible with one operating system, it will not be compatible with another operating system that has a different requirement. (Ex. 1002, ¶165). As Dr. Houh explains, it would have been a relatively simple matter in the relevant timeframe to use JavaScript to determine, at the server, the operating system for the mobile device and, using that information,

to configure the URI based on the operating system detected based on known click-to-text URI schema. (Ex. 1016, pp. 324-338, 584-590)(Ex. 1002, ¶165).

CLAIM 6

“6. The method of claim 1, wherein the first user interaction and the second user interaction are the only user interactions between receiving the first signal causing the frame to be displayed and subscribing the mobile device to the subscription list.”

Claim 6 is rendered obvious by the combination for the same reasons as claims 1 and 3. (Ex. 1002, ¶166).

CLAIM 7

“7. The method of claim 1, wherein the installment of the subscription is received via text message without an entity associated with the at least one webserver charging a fee.”

As Oliver explains in conjunction with Figures 8-10, the device is enrolled in the promotion without charging a fee to a user of the mobile device. (Ex. 1011, Figs. 8-10, ¶¶0051-0054)(Ex. 1002, ¶¶167-168). *See AC Techs.*, 912 F.3d at 1367. Furthermore, it would have been obvious for Oliver’s system to send an installment without charging a fee, because the intent of Oliver’s system was to generate leads for further sales with the minimum amount of friction. (Ex. 1011, Title, ¶¶0025, 0046-0047)(Ex. 1002, ¶¶167-168).

CLAIM 8

“8[a]. A non-transitory processor-readable medium storing code configured to be executed by a processor of a mobile device, the

code including instructions configured to cause the mobile device to:”

As explained under claim limitation 1[a], Agrawal’s user devices (client devices 110) can be **mobile devices**. (Ex. 1005, 4:10-16)(Ex. 1002, ¶¶169-170). Agrawal teaches that its client devices execute code (4:39-425:37-39, 6:30-36, 7:33-35), and possess **a non-transitory processor-readable medium** as well as a **processor**, for **executing** the code. (Ex 1005, Fig. 2, 4:39-57)(Ex. 1002, ¶¶169-170).

For the reasons described above in the section entitled “Rationale (Motivation) for the Combination”, it would have been obvious to arrange **code configured to be executed by a processor of a mobile device to include instructions configured to cause the mobile device** to perform the functions of the recited in each of claim limitations [8b]-[8i]. (Ex. 1002, ¶171).

The body limitations of claim 8 are similar to those of claim 1, except that they recite the actions carried out by a user mobile device. These steps are obvious for the same reasons as set forth for claim 1, which also describe the actions of the mobile device. (Ex. 1002, ¶172).

CLAIMS 9-14

Claims 9-14 are similar to claims 2-7 except claims 9-14 are directed to the steps carried out via a non-transitory processor-readable medium storing code which is executed by a processor of a mobile device whereas claim 1 is in method form.

Claims 9-14 were obvious for the same reasons as claims 2-7. (Ex. 1002, ¶173).

CLAIM 15

“15. The mobile device comprising the non-transitory processor readable medium of claim 8 and the processor.”

See claim 8, limitation 8[a]. (Ex. 1002, ¶174).

CLAIM 16

“16[a]. A method, comprising:”

Claim 16 is similar to claim 1, except that it is written from the perspective of a server. The claimed method is thus obvious for the reasons set forth under claim 1, where the combined advertising system 120 and client servers 130 of Agrawal carries out the recited method steps. (Ex. 1002, ¶175). Because the operation of the combined server is discussed under claim 1, this claim mapping will refer back to claim 1 except that differences in the claim requirements will be specifically discussed.

“[16b] defining an integration tag configured to be included in a webpage such that the integration tag executes when a web browser application of a mobile device accesses the webpage;”

See above, claim 1, limitation [1b]. The present limitation additionally requires “defining an integration tag” and that the “the integration tag executes when a web browser application of a mobile device accesses the webpage”.

The combination renders this additional requirement obvious. Specifically,

because Agrawal teaches an integration tag, it was obvious that the tag needed to be “defined”, because otherwise it would not exist. (Ex. 1002, ¶177).

Furthermore, Agrawal renders obvious that the integration tag (Agrawal’s piece of code) **executes when a web browser application of a mobile device accesses the webpage.** (Ex. 1005, 5:32-39)(Ex. 1002, ¶178). Agrawal teaches that mobile device browsers loading webpages that contain code (*e.g.*, JavaScript) will execute when the webpage is loading. (Ex. 1005, 5:32-39)(Ex. 1002, ¶178). As Dr. Houh explains, browsers in the relevant timeframe executed scripts present within a webpage at the time of loading the webpage. (Ex. 1002, ¶¶178, 58-62).

“[16c] receiving, from the mobile device and in response to the integration tag executing at the mobile device, (1) a mobile device identifier that identifies the mobile device, and (2) a request to retrieve an identifier associated with at least one of a product or a service presented via the webpage;”

See claim 1, limitation [1d]. (Ex. 1002, ¶179).

“[16d] sending, to the mobile device and in response to receiving the mobile device identifier and the request to retrieve the identifier, a first signal configured to cause a frame to be displayed with the webpage via the web browser application, the frame including a promotional message associated with joining a subscription list;”

See claim 1, limitation [1e]. (Ex. 1002, ¶180).

“[16e] receiving, from the mobile device, an indication of a first user interaction with the promotional message;”

See claim 1, limitation [1f]. (Ex. 1002, ¶181).

“[16f] sending a uniform resource identifier (URI) to the mobile device that deeplinks to and causes the mobile device to automatically (1) switch from rendering the web browser application to rendering a text messaging application and (2) generate a text message with a pre-populated phone number and a pre-populated message body containing a request to join the subscription list in response to at least one of (1) the integration tag executing or (2) the indication of the first user interaction;”

See claim 1, limitation [1g]. (Ex. 1002, ¶182).

“[16g] receiving the text message including the pre-populated message body to the pre-populated phone number in response to a second user interaction with the text messaging application;”

See claim 1, limitation [1h]. In the combination, combined advertising system 120 and client servers 130 **receive** the text message. (Ex. 1002, ¶183). As Oliver explains, the “destination number or code is ‘hosted’ at a web service 430 that interfaces with the mobile data and telephone network.” (Ex. 1011, 0008, 0038, 0040), and it was obvious to combine web service 430 with Agrawal’s advertising system 120 for the reason provided under the Rationale (Motivation) for the Combination. In the combination, advertising system 120 and client servers 130 are associated with the **pre-populated phone number** and thus host the destination number and **receive the text message**. (Ex. 1002, ¶183).

“[16h] subscribing the mobile device to the subscription list based

on receiving the text message; and”

See claim 1, limitations [1h] and [1i]. (Ex. 1002, ¶184).

“[16i] delivering an installment of a subscription associated with the subscription list without receiving an opt-in communication after receiving the text message containing the pre-populated message body.”

See claim 1, limitation [1i]. (Ex. 1002, ¶185).

CLAIM 17

“17. The method of claim 16, wherein a location of the frame on the webpage is configurable.”

The combination renders obvious that the location of the advertisement on the webpage (and the frame including the advertisement) is configurable. (Ex. 1002, ¶186). The '900 application, which is incorporated into Agrawal, teaches that ad serving parameters include “an absolute **position** of the ad on the page on which it is served, a **position** (**spatial** or temporal) of the ad relative to other ads served, an absolute size of the ad, a size of the ad relative to other ads” and that a content server can transmit information regarding the “**position**” of the ads. (Ex. 1006, 015:28-016:22, 011:18-26)(Emphasis added). Furthermore, “an advertiser may be able to specify that its ad is . . . no lower than a certain **position**.” (Ex. 1006, 015:28-015:22)(Emphasis added)(see also Ex. 1006, 042:3-20, 013:24-32)(Ex. 1005, Fig. 4)(displaying ads in different positions). It was obvious that the location of the ad

on the webpage be configurable so that the ad can be located in a manner so as to be visible to the user and also so that it can be placed high or lower, or in a more or less favorable position on the webpage, depending on how much an advertiser pays for the ad. (Ex. 1002, ¶186).

CLAIM 18

“18. The method of claim 16, wherein the text message is a first text message, the method further comprising sending, to the mobile device via the user phone number, a second text message confirming the subscription to the subscription list in response to receiving the first text message.”

The combination renders claim 18 obvious. Oliver discloses providing “any type of promotional information” in a reply message in response to having received a first text message. (See, e.g., Ex. 1011, ¶¶0025, 0039, 0050, Fig. 5). It would be obvious to **send this second (reply) text message to the mobile device via the user phone number** to confirm that the device has in fact been subscribed to the subscription list in response to the user’s request so that the user can be notified that their request was successful. (Ex. 1002, ¶187). Furthermore, the content of the message is “printed matter” that is unrelated to the technical functioning of the alleged invention (Ex. 1002, ¶187), and thus is not a limiting part of the claim. See *Distefano*, 808 F.3d at 851.

CLAIM 19

“19. The method of claim 16, wherein the installment of the

subscription is delivered (1) with no user input other than the first user interaction and the second user interaction and (2) without redirecting the text messaging application to a different application after the message is sent.”

Claim 19 is a combination of claim 16, limitation [16i], which states that an installment of the subscription is delivered, and claim 3, which specifies conditions (1) and (2). The combination thus renders obvious claim 19 for the same reasons as set forth under claim limitation [16i] and claim 3. (Ex. 1002, ¶188).

CLAIM 20

“20. The method of claim 16, wherein the installment of the subscription is delivered via text message to the mobile device without a provider of the subscription service charging a user of the mobile device any fee.”

Claim 20 is a combination of claim 16, limitation [16i], which states that an installment of the subscription is delivered, and claim 7, which specifies the negative limitation. The combination thus renders obvious claim 20 for the same reasons as set forth under claim limitation [16i] and claim 7. (Ex. 1002, ¶189).

CLAIM 21

“21. The method of claim 16, wherein the pre-populated message body complies with opt-in requirements for enrollment in text message subscription services such that the mobile device can be automatically subscribed to the subscription list without sending or receiving an additional authorization from the mobile device.”

The combination renders this claim obvious. Regarding the limitation **“complies with opt-in requirements for enrollment in text message subscription**

services”, Oliver teaches using a “two-tap” method as explained above, and the specification of the ’074 patent admits that use of the “two-tap” method complied with opt-in requirements for enrollment in text message subscription services. (Ex. 1001, 6:53-57)(See also Ex. 1004, pp. 122-123)(Ex. 1002, ¶190).

Independently, a PHOSITA would have known of opt-in requirements and would obviously have designed the combination to comply with known requirements in order to create a commercially viable system which is legally compliant. (Ex. 1002, ¶191).

CLAIM 22

“22. The method of claim 16, wherein: the pre-populated message body complies with opt-in requirements for enrollment in text message subscription services such that the mobile device can be automatically subscribed to the subscription list without sending or receiving an additional authorization from the mobile device; and the mobile device is subscribed to the subscription list without sending or receiving an opt-in communication other than the URI and the text message.”

Claim 22 combines the limitations of claims 19 and 21, and the combination renders obvious claim 22 for the same reasons as set forth under those claims. (Ex. 1002, ¶192).

CLAIM 23

Independent claim 23 is similar to independent claim 16. Where claim 16 is directed to a method, however, claim 23 recites a processor-readable medium storing code configured to cause the processor of at least one server to carry out actions that

correspond to the method steps of claim 16. (Ex. 1002, ¶193).

The following mapping shows how the combination renders the claim obvious, with reference to the mapping of claims 1 and 16.

“23[a]. At least one non-transitory processor-readable medium storing code configured to be executed by at least one processor of at least one server, the code including instructions configured to cause the at least one server to:”

As discussed above under claim 1, limitation [1b] Agrawal’s system has an advertising system 120 and servers 130, which can be combined into a single server. (Ex. 1005, 4:28-35)(Ex. 1002, ¶195). The server 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, ¶195). Agrawal also teaches that client servers 130 “may be similarly configured.” (Ex. 1005, 4:39-57)(*see also* Ex. 1005, 4:10-35, 10:4-13)(Ex. 1002, ¶195).

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 and client servers 130 to **includ[e] instructions configured to cause the at least one server to** perform the functions recited in each of claim limitations [23b]-[23i]. (Ex. 1002, ¶196).

“[23b] define an integration tag configured to be included in a webpage such that the integration tag executes when a web browser application of a mobile device accesses the webpage;”

See above, claim 16, limitation [16b]. It further would have been obvious to have the **at least one server** (specifically advertising system 120) to **define the integration tag**. Agrawal’s “code” (integration tag) causes an advertisement query request and detailed user information to be sent to the advertising system 120. (Ex. 1005, 5:64-6:36)(Ex. 1002, ¶197). The advertising system 120 needs to properly receive and handle the request and user data. (Ex. 1002, ¶197). Because of this, the code (executed by the browser) that sends the query request and user data needs to send it *to the correct place*, and *in the correct form*, for it to be handled properly by the advertising system 120. (Ex. 1002, ¶197)(see also Ex. 1006, 026:18-33)(showing integration tag code addressing specific ad-server locations in a specific format). Because the correct place and correct form are best-known to the administrators of the advertising system 120, it would have been obvious for the advertising system 120 to define the code. (Ex. 1002, ¶197). Furthermore, in operation at scale, many thousands of integration tags may need to be defined in a short period of time. (Ex. 1002, ¶197). Each tag can have unique characteristics for the particular publisher, such as a unique identifier assigned to the publisher and particular business rules that are executed. (Ex. 1006, 023:1-5)(Ex. 1002, ¶197). In order to generate a unique identifier and business rules with each integration tag

during large-scale operations, it would have been most obvious to configure the advertising system 120 server to define and generate the integration tags. (Ex. 1002, ¶197). Finally, it was well-known in the relevant timeframe (2017) for content publishers to receive ad tag code from an advertising system, for the purpose of integrating the code into web sites, such that the code will transmit information and request advertising when a consumer's browser downloads and interprets the web site. (Ex. 1002, ¶197). Implementation of this well-known technique into a well-known ad system (Google's) as taught by Agrawal would have been no more than the combination of familiar limitations according to known methods, yielding predictable results, and thus obvious. (Ex. 1002, ¶197). *See KSR*, 550 U.S. at 416.

“[23c] receive, from the mobile device and in response to the integration tag executing at the mobile device, (1) a mobile device identifier that identifies the mobile device, and (2) a request to retrieve an identifier associated with at least one of a product or a service presented via the webpage;”

See above, claim 16, limitation [16c]. (Ex. 1002, ¶198).

“[23d] send, to the mobile device and in response to receiving the mobile device identifier and the request to retrieve the identifier, a first signal configured to cause a frame to be displayed with the webpage via the web browser application, the frame including a promotional message associated with joining a subscription list;”

See above, claim 16, limitation [16d]. (Ex. 1002, ¶199).

“[23e] receive, from the mobile device an indication of a first user interaction with the promotional message;”

See above, claim 16, limitation [16e]. (Ex. 1002, ¶200).

“[23f] send a uniform resource identifier (URI) to the mobile device that deeplinks to and causes the mobile device to automatically (1) switch from rendering the web browser application to rendering a text messaging application and (2) generate a text message with a pre-populated phone number and a pre-populated message body containing a request to join the subscription list in response to at least one of (1) the integration tag executing or (2) the indication of the first user interaction;”

See above, claim 16, limitation [16f]. (Ex. 1002, ¶201).

“[23g] receive the text message including the pre-populated message body to the pre-populated phone number in response to a second user interaction with the text messaging application;”

See above, claim 16, limitation [16g]. (Ex. 1002, ¶202).

“[23h] subscribe the mobile device to the subscription list based on receiving the text message; and”

See above, claim 16, limitation [16h]. (Ex. 1002, ¶203).

“[23i] deliver an installment of a subscription associated with the subscription list without receiving an opt-in communication after receiving the text message containing the pre-populated message body.”

See above, claim 16, limitation [16i]. (Ex. 1002, ¶204).

CLAIMS 24-29

Claims 24-29 are similar to 17-22 except claims 24-29 are directed to the steps carried out via a non-transitory processor-readable medium storing code configured to be executed by at least one processor of at least one server whereas claims 17-22 are in method form. Claims 24-29 are obvious for the same reasons as claims 17-22. (Ex. 1002, ¶205).

CLAIM 30

“30. The at least one server comprising the non-transitory processor-readable medium of claim 23 and the at least one processor.”

The combination renders obvious claim 30 is obvious for same reasons as set forth under claim 23. (Ex. 1002, ¶206).

Ground 2. Claims 1-30 were obvious as in Ground 1, in further view of Molinet.

Claims 1-30 were obvious as in Ground 1, in further view of U.S. Pat. App. Pub. 2016/0142858 A1 (“**Molinet**”)(Ex. 1009).

Molinet was not of record during the prosecution of the application leading to the '074 patent.

A. Prior Art Status

Molinet was published on May 19, 2016 from an effective filing date at least as early as Nov. 6, 2015, and is thus prior art under post-AIA 35 U.S.C. §§102(a)(1)

and (2).

B. Overview of the Ground

This Ground challenges the claims in the same way as described under Ground 1, further in view of Molinet. As explained below, Molinet provides certain additional teachings regarding customization of deeplinks that are relevant to claims 4-5 and 11-12 (Ex. 1002, ¶209).

C. Overview of Molinet

Molinet teaches a system that can use mobile-app deeplinking with “contextual deeplinks”. (Ex. 1009, ¶¶0016-0018)(Ex. 1002, ¶210). “Contextual deeplinks” are app deeplinks that are customized for the particular operating environment of a user’s mobile device. (Ex. 1009, ¶¶0037, 0045, 0081-0082)(Ex. 1002, ¶210). This customization is desirable, according to Molinet, because different operating environments may not use or allow all deeplinking protocols. (Ex. 1009, ¶0005)(Ex. 1002, ¶210). Molinet further incorporates (Ex. 1009, ¶0001) its provisional application, U.S. Prov. App. 62/079,512 (Ex. 1010). The ’512 provisional teaches the use of standard URIs for mobile-app deeplinking used by the iOS and Android operating systems. (Ex. 1010, pp. 015, 021)(Ex. 1002, ¶210).

D. Analogous Art

Molinet is analogous art because it is in the same field as the ’074 patent and is reasonably related to the problems facing the named inventors. (Ex. 1009, Abstract, ¶¶0002-0005, 0025-0027)(Ex. 1002, ¶211).

E. Reasonable Expectation of Success

A PHOSITA would have had a reasonable expectation of success in using the teachings of Molinet in the manner described herein for the reasons described in Ground 1. (Ex. 1002, ¶212).

F. Claim Mapping

CLAIMS 4 AND 11

“4. The method of claim 1, wherein the mobile device identifier is based on a user agent field associated with the web browser application.”

“11. The non-transitory processor-readable medium of claim 8, wherein the mobile device identifier is based on a user agent field associated with the web browser application.”

See above, Ground 1, discussion under claims 4 and 11 (Ground 1). As set forth under claim 4, Agrawal’s user data (**the mobile device identifier**) can identify the operating system and browser type executing on the mobile device. (Ex. 1005, 5:45-6:46, 7:19-28, 8:20-33)(Ex. 1002, ¶213).

Molinet further teaches expressly that **user agent** information can be collected as part of the user data. (Ex. 1009, ¶0085)(Ex. 1010, p. 022)(Ex. 1002, ¶214). As Molinet’s incorporated provisional explains, the user agent information sent by a browser refers to the “User-Agent” field of an HTTP request, which included an identification of the operating system, operating system version, and name and version of the browser itself. (Ex. 1010, p. 022)(Ex. 1009, ¶0065)(Ex. 1002, ¶214).

Accordingly, Molinet teaches that the **mobile device identifier is based on a user agent field associated with the web browser application.** (*See also* Ex. 1001, 9:45-10:65)(Ex. 1002, ¶214).

It would have been obvious to collect user agent information as “user data” sent together with the advertisement query request of Agrawal (*see above*, Ground 1, claim 1, limitation [1d]), both because the user agent data is sent with the HTTP header in the ad request (Ex. 1010, p. 022), and because the user agent data could be accessed using JavaScript executed by a browser by using, for example, the Navigator object’s userAgent field. (Ex. 1002, ¶215)(*citing* Ex. 1021, pp. 364-365, 992)(Ex. 1016, pp. 324-338, 584-590). It would have been obvious to do so, for example to identify the operating system of the mobile device (for example, to configure a URI, as explained under Grounds 1 and 2, claim 5), because the user agent states the identity of the operating system directly. (*Id.*)(Ex. 1002, ¶215).

CLAIMS 5 AND 12

“5. The method of claim 1, wherein: the mobile device identifier identifies a first operating system executing on the mobile device; and the URI is compatible with the first operating system and not a second operating system different from the first operating system.”

“12. The non-transitory processor-readable medium of claim 8, wherein: the mobile device identifier identifies a first operating system executing on the mobile device; and the URI is compatible with the first operating system and not a second operating system different from the first operating system.”

See above, Ground 1, discussion under claims 5 and 12. Molinet further teaches that the user data (**mobile device identifier**) **identifies a first operating system executing on the mobile device.** (Ex. 1009, ¶0065)(“These characteristics may include network address (*e.g.*, IP address), operating system version, operating system type, device model information, and screen size.”)(*see also* Ex. 1009, ¶¶0017, 0025, 0037, 0054, 0069, 0085, 0105)(Ex. 1002, ¶216).

Molinet renders obvious that **the URI is compatible with the first operating system and not a second operating system different from the first operating system.** (Ex. 1002, ¶217). Specifically, Molinet specifically teaches that URIs can be customized based on the user data (the “fingerprint”, ¶0017), including the operating system, such that the URI is operable on the particular mobile device. (Ex. 1009, ¶¶0037-0045)(Ex. 1002, ¶217). Molinet explains:

“The server link module 115 also determines contextual information for the client device 120 based on the characteristics of the client device 120. Based on the contextual information, the server link module 115 transmits a response back to the client device 120 such that the response is operable on the client device 120.”

(Ex. 1009, ¶¶0037)(*See also* ¶¶0045, 0017-0018)(Ex. 1010, pp. 015, 021-022)(Ex. 1002, ¶217). Molinet thus teaches that the customized URI is compatible with the mobile device’s operating system and is not compatible with a different operating system (*i.e.*, iOS v. Android). (Ex. 1002, ¶217).

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 by Dr. Houh (Ex. 1002, ¶¶218-220), it clearly was not. (Ex. 1011, Abstract, ¶¶0007, 0009, 0024, 0027-0029)(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). *See Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1324 (Fed. Cir. 2004). 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. (Ex. 1002, ¶¶218-220).

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). Three of the four references at issue in Grounds 1-2, namely

Agrawal, Khanna, and Molinet, were not of record during the prosecution of the application leading to the '074 patent. Oliver was of record, but was not substantively examined. (Ex. 1004). Oliver was used, in combination with other references not raised by the present petition, to reject certain (different) claims during prosecution of the abandoned '569 application, to which the '074 patent claims priority. (Ex. 1015, pp. 050-060). The Applicants *did not overcome Oliver in the '569 application*, but rather abandoned the application. (Ex. 1015, p. 002).

Furthermore, the Examiner in the application leading to the '074 patent appears to have clearly misapprehended the prior art's teachings. Specifically, as discussed above in §I.C., the Examiner recognized that the limitations of the claims were taught by the prior art, but allowed the claims because the prior art allegedly failed to disclose the claim limitations in combination and "the examiner cannot determine a reasonable motivation, either in the known prior art or the existing case law, to combine the known limitations to render the claimed invention." (Ex. 1004, p. 55). However, as set forth herein, not only were the limitations of the challenged claims known in the art, a PHOSITA would have recognized and have been motivated to combine these limitations, thus arriving at the challenged claims.

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:

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.

Factor 3. Because the district court case against Postscript is in its 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). Furthermore, the ’074 patent has an earliest-possible effective filing date that makes it subject to the America Invents Act, and the petition was filed within 21 days the first possible time to file an *inter partes* review after expiration of the nine-month period following issuance of the ’074 patent. *See Google LLC v. EcoFactor, Inc.*, IPR2021-00054, Paper 9, Institution Decision, p. 11 (PTAB May 10,

2021)(finding factor 3 weighed against exercising discretion to deny institution where a petition was filed nine months and eight days after issuance of an AIA patent).

Factor 4. Because the district court case against Postscript is in its 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 1-30 of the '074 patent be canceled.

Date: <u>October 31, 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 31, 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
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UNITED STATES

Date: October 31, 2023

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

CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the foregoing petition for *inter partes* review contains 13,998 words according to the word processing program used to prepare it.

Date: October 31, 2023

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