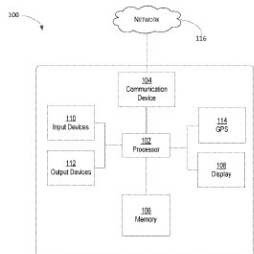


IPR2025-00148
U.S. Patent No. 11,556,947

Petitioner's Oral Argument Demonstrative
March 11, 2026



The '947 Patent – Claim 1

 US011556947B2	
(12) United States Patent Waishampayan et al.	
(54) LOCATION DETERMINATION USING ANONYMOUS BROWSER DATA	(10) Patent No.: US 11,556,947 B2 (45) Date of Patent: Jan. 17, 2023
(71) Applicant: FullThrottle Technologies, LLC, Malvern, PA (US)	(58) Field of Classification Search CPC G06Q 10/00-50/00; G06F 16/955; H04L 67/52; H04L 63/0421 USPC 705/7.11-7.42 See application file for complete search history.
(72) Inventors: Anmol Waishampayan, Philadelphia, PA (US); Pat O'Flaherty, Dublin (IE); Alexey Yakovlev, Dnipro (UA)	(56) References Cited U.S. PATENT DOCUMENTS 8,935,797 B1 * 1/2015 Silver G06F 21/0245 2016/0323716 A1 * 12/2010 Juffs H04W 4/20 2013/0151645 A1 * 6/2013 Siliaki G06F 16/27 709/213 (Continued)
(73) Assignee: FullThrottle Technologies, LLC, Malvern, PA (US)	Primary Examiner — Mustafa Iqbal (74) Attorney, Agent, or Firm — Flaster Greenberg, P.C.
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.	(57) ABSTRACT Systems, methods, and apparatus are described herein for determining a location from anonymous data. For example, a computing device may receive anonymous data associated with a browser session initialized by a user via a browser on a user computing device. The computing device may determine that the user has not been assigned a unique identifier. The computing device may determine whether the user opted-in to location tracking. If the user opted-out of location tracking, the computing device may determine a latitude coordinate and a longitude coordinate of the user computing device during the browser session. The computing device may identify a physical address for the user based on the latitude coordinate and the longitude coordinate, for example, using a map application programming interface (API). The computing device may assign the unique identifier to the user. The computing device may associate the unique identifier to the physical address.
(21) Appl. No.: 17/687,992 (22) Filed: Mar. 7, 2022	
(65) Prior Publication Data US 2022/0391933 A1 Dec. 8, 2022	
Related U.S. Application Data (60) Provisional application No. 63/208,275, filed on Jun. 8, 2021.	
(51) Int. Cl. G06Q 30/00 (2012.01) H04L 67/00 (2022.01) G06F 16/00 (2019.01) G06Q 30/02 (2012.01) H04L 67/52 (2022.01) G06F 16/955 (2019.01) H04L 9/40 (2022.01)	
(52) U.S. Cl. CPC G06Q 30/0205 (2013.01); G06F 16/955 (2019.01); H04L 63/0421 (2013.01); H04L 67/52 (2022.05)	
20 Claims, 16 Drawing Sheets	
	

EX1001 at cl. 1.

1. A method comprising:
 receiving first anonymous data associated with a first browser session initialized by a user via a browser on a user computing device, wherein the first anonymous data comprises one or more of a time, a date, one or more uniform resource locators (URLs), a referring URL, a browser type, a language, an internet protocol (IP) address, or location data;
 determining that the user accessed a URL during the first browser session;
 determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
 assigning the unique identifier to the user;
 determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;
 sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;
 determining a latitude coordinate and a longitude coordinate of the user computing device, during the first browser session, wherein the latitude coordinate and the longitude coordinate are determined based on the

first anonymous data upon determining that the user opted-out of location tracking, and wherein the latitude coordinate and the longitude coordinate are determined based on geo-location data retrieved from the user computing device upon determining that the user opted-in to location tracking;
 identifying a physical address for the user based on the determined latitude coordinate and the determined longitude coordinate using a map application programming interface (API);
 associating the unique identifier to the physical address;
 generating a user profile for the user using the unique identifier and physical address, the user profile comprising profile information that comprises one or more URLs the user has accessed, a frequency with which the user accessed the URL(s), demographics associated with the user, the physical address(es) associated with the user, or devices associated with the user;
 updating the profile information based on second anonymous data associated with a second browser session initialized on the user computing device or another user computing device associated with the physical address;
 identifying a second visit to the URL during the second browser session using the unique identifier stored in the local browser cache;
 determining, using the updated profile information, a confidence rating for the user, the confidence rating indicating a quantifiable measure of the user's interest in a product;
 generating one or more notifications based on one or more of the updated profile information or the confidence rating; and
 determining when to send the one or more notifications to the user.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The Prior Art

Doughty

US00889074B2

(12) **United States Patent**
Doughty et al.

(10) **Patent No.:** US 8,898,074 B2
(45) **Date of Patent:** Nov. 25, 2014

(54) **CREATION OF A UNIVERSAL PROFILE OF A USER BY IDENTIFYING SIMILAR USER-MANAGED ASSETS ON A PLURALITY OF DEVICES OF THE USER**

(71) **Applicant:** Millennial Media, Inc., Boston, MA (US)

(72) **Inventors:** Dennis L. Doughty, Hockliss, MA (US); Benjamin M. Gordon, Hingham, MA (US); Shrikant B. Mysore, Littleton, MA (US); Matthew A. Tengler, Upton, MA (US)

(73) **Assignee:** Millennial Media, Inc., Boston, MA (US)

(52) **U.S. CL.**
CPC: G06Q 16/0269 (2013.01); G06Q 16/0257 (2013.01)
USPC: 705/14.66; 705/14.49

(58) **Field of Classification Search**
CPC: G06Q 16/0269
USPC: 705/14.66
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
2008/0109307 A1* 5/2008 Utha 705/14
2011/0018097 A1* 2/2011 Benham 340/407.2

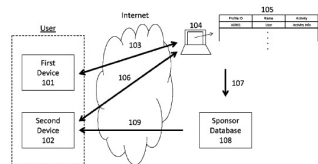
1. Field of the Invention

This disclosure relates to the field of mobile communications and more particularly to improved methods and systems directed to targeting advertising to mobile and non-mobile communication facilities accessed by the same user.

(1) 5-6/08, filed on Dec. 16, 2011, provisional application No. 61/652,834, filed on May 29, 2012, and (2) determining that the user or the first communication device is the user of the second communication device based on identifying that the first user-managed asset is substantially the same as the second user-managed asset.

(51) **Int. CL.**
G06Q 16/09 (2012.01)
G06Q 16/02 (2012.01)

7 Claims, 10 Drawing Sheets



Van Boucq

(19) **European Patent**
[Logo] **EP 2 938 045 A1**

(11) **EUROPEAN PATENT APPLICATION**

(43) **Date of publication:** 10/20/2015 **Bulletin** 2015-44
(51) **Int. CL.** H04L 29/08 (2006.01)

(71) **Applicant:** 14169111.3
(72) **Date of filing:** 05/20/2014

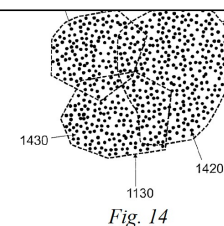
(84) **Designated Contracting States:** AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States: BA ME

(73) **Inventor:** van Boucq, Bruno
1320 Beuvechain (BE)
(74) **Agent:** Gevers Patents
Intellectual Property House
Hindelsvrouw 5
1831 Diegem (BE)

(54) Geolocation method

(57) Geolocation method assigning an Internet user a geolocation (1410, 1420, 1430) in a territory (1110, 1120, 1130) determined on the basis of the geolocation of the user's IP address.

Geolocation-based ad delivery method.



EX1008 at 5:25-30; EX1009 at 33; Petition at 17-19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

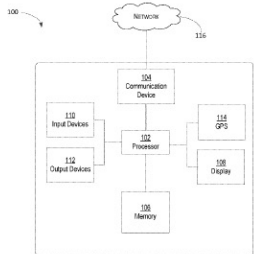
The Allegedly Separate Embodiments

~~“Unique Identifier/Lack of Stored Location Data Embodiment”~~

The computing device may determine, at 406, whether there is a unique identifier that is associated with the user (e.g., the user computing device, the browser, and/or the browser session) stored on the computing device. For example, the script may inform the computing device that there is no unique identifier for the user computing device. The computing device may determine that there is no unique identifier associated with the user computing device when there is no location data stored for the user computing device. For example, the computing device may access a database or other storage location that maintains a mapping of unique identifier to a browser session, a user computing device, and/or location data. Additionally or alternatively, the computing device may determine whether there is a unique identifier for associated with the user based on presence of a location tracker (e.g., cookie) installed in the browser application on the user computing device. The tracker may include the unique identifier associated with the user. The tracker may have been installed in the user's browser application (e.g., by the computing device) during a previous visit to the URL via the user's browser application, for example, if the user opted-in to location tracking, as described herein.

“Unclaimed Unique Identifier/Tracker Embodiment”

The '947 Patent – Claim 1

 US011556947B2	
(12) United States Patent Waishampayan et al.	
(54) LOCATION DETERMINATION USING ANONYMOUS BROWSER DATA	(10) Patent No.: US 11,556,947 B2 (45) Date of Patent: Jan. 17, 2023
(71) Applicant: FullThrottle Technologies, LLC, Malvern, PA (US)	(58) Field of Classification Search: CPC G06Q 10/00-50/00; G06F 16/955; H04L 67/52; H04L 63/0421 USPC 705/7.11-7.42 See application file for complete search history.
(72) Inventors: Anil Waishampayan, Philadelphia, PA (US); Pat O'Flaherty, Dublin (IE); Alexey Yakovlev, Dnipro (UA)	(56) References Cited U.S. PATENT DOCUMENTS 8,935,797 B1 * 1/2015 Silver G06F 21/6245 726-26 2010/0323716 A1 * 12/2010 Jaffi H04W 4/20 705-14, 58 2013/0151645 A1 * 6/2013 Sitski G06F 16/27 709-213 (Continued)
(73) Assignee: FullThrottle Technologies, LLC, Malvern, PA (US)	Primary Examiner —Mustafa Iqbal (74) Attorney, Agent, or Firm —Flaster Greenberg, P.C.
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.	(57) ABSTRACT Systems, methods, and apparatus are described herein for determining a location from anonymous data. For example, a computing device may receive anonymous data associated with a browser session initialized by a user via a browser on a user computing device. The computing device may determine that the user has not been assigned a unique identifier. The computing device may determine whether the user opted-in to location tracking. If the user opted-out of location tracking, the computing device may determine a latitude coordinate and a longitude coordinate of the user computing device during the browser session. The computing device may identify a physical address for the user based on the latitude coordinate and the longitude coordinate, for example, using a map application programming interface (API). The computing device may assign the unique identifier to the user. The computing device may associate the unique identifier to the physical address.
(21) Appl. No.: 17/687,992 (22) Filed: Mar. 7, 2022	
(65) Prior Publication Data US 2022/0391933 A1 Dec. 8, 2022 Related U.S. Application Data Provisional application No. 63/208,275, filed on Jun. 8, 2021.	
(51) Int. Cl. G06Q 30/00 (2012.01) H04L 67/00 (2022.01) G06F 16/00 (2019.01) G06Q 30/02 (2012.01) H04L 67/52 (2022.01) G06F 16/955 (2019.01) H04L 9/40 (2022.01)	
(52) U.S. Cl. CPC G06Q 30/0205 (2013.01); G06F 16/955 (2019.01); H04L 63/0421 (2015.01); H04L 67/52 (2022.05)	
20 Claims, 16 Drawing Sheets	
	

1. A method comprising:
 receiving first anonymous data associated with a first browser session initialized by a user via a browser on a user computing device, wherein the first anonymous data comprises one or more of a time, a date, one or more uniform resource locators (URLs), a referring URL, a browser type, a language, an internet protocol (IP) address, or location data;
 determining that the user accessed a URL during the first browser session;
 determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
 assigning the unique identifier to the user;
 determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;
 sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;
 determining a latitude coordinate and a longitude coordinate of the user computing device, during the first browser session, wherein the latitude coordinate and the longitude coordinate are determined based on the

first anonymous data upon determining that the user opted-out of location tracking, and wherein the latitude coordinate and the longitude coordinate are determined based on geo-location data retrieved from the user computing device upon determining that the user opted-in to location tracking;
 identifying a physical address for the user based on the determined latitude coordinate and the determined longitude coordinate using a map application programming interface (API);
 associating the unique identifier to the physical address;
 generating a user profile for the user using the unique identifier and physical address, the user profile comprising profile information that comprises one or more URLs the user has accessed, a frequency with which the user accessed the URL(s), demographics associated with the user, the physical address(es) associated with the user, or devices associated with the user;
 updating the profile information based on second anonymous data associated with a second browser session initialized on the user computing device or another user computing device associated with the physical address;
 identifying a second visit to the URL during the second browser session using the unique identifier stored in the local browser cache;
 determining, using the updated profile information, a confidence rating for the user, the confidence rating indicating a quantifiable measure of the user's interest in a product;
 generating one or more notifications based on one or more of the updated profile information or the confidence rating; and
 determining when to send the one or more notifications to the user.

“stored location data”

1. A method comprising:

receiving first anonymous data associated with a first browser session initialized by a user via a browser on a user computing device, wherein the first anonymous data comprises one or more of a time, a date, one or more uniform resource locators (URLs), a referring URL, a browser type, a language, an internet protocol (IP) address, or location data;

determining that the user accessed a URL during the first browser session;

determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;

assigning the unique identifier to the user;

determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;

sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;

determining a latitude coordinate and a longitude coordinate of the user computing device, during the first browser session, wherein the latitude coordinate and the longitude coordinate are determined based on the identifying a second visit to the URL during the second browser session using the unique identifier stored in the local browser cache;

“Unique Identifier/Lack of Stored Location Data Embodiment”: In one example technique, the ’947 Patent describes that the “computing device may determine that there is no unique identifier associated with the user computing device when there is no location data stored for the user computing device” (Ex-1001, 9:47-52, 43:52-55; Ex-2012, ¶75). According to this technique, “the computing device may access a database or other storage location that maintains a mapping of unique identifier to a browser session, a user computing device, and/or location data” (Ex-1001, 9:52-55, 43:56-59; Ex-2012, ¶75). The ’947 Patent claims focus on this Unique Identifier/Lack of Stored Location Data Embodiment. Claim 1, for example,

“location tracker”

1. A method comprising:
receiving first anonymous data associated with a first browser session initialized by a user via a browser on a user computing device, wherein the first anonymous data comprises one or more of a time, a date, one or more uniform resource locators (URLs), a referring URL, a browser type, a language, an internet protocol (IP) address, or location data;
determining that the user accessed a URL during the first browser session;
determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
assigning the unique identifier to the user;
determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;
sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;
determining a latitude coordinate and a longitude coordinate of the user computing device, during the first browser session, wherein the latitude coordinate and the longitude coordinate are determined based on the identifying a second visit to the URL during the second browser session using the unique identifier stored in the local browser cache;

EX1001 at cl. 1; POR at 8-9, 42.

“Unique Identifier/Tracker Embodiment”: The ’947 Patent discloses another embodiment for identifying the anonymous user. The ’947 Patent also discloses that “[a]dditionally or alternatively, the computing device may determine whether there is a unique identifier” that is “associated with the user based on presence of a location tracker (e.g., cookie) installed in the browser application on the user computing device” (Ex-1001, 9:55-59, 43:59-63; Ex-2012, ¶75). “The tracker may include the unique identifier associated with the user” (Ex-1001, 9:59-61, 43:63-64; Ex-2012, ¶75). “The tracker may have been installed in the user's A POSITA would have understood that cookies, as taught by Doughty and van Boucq, are sent for storage in a dedicated storage area of the web browser referred to in the relevant standard as the “cookie store” (Ex-2012, ¶53, 150; *see generally* Ex-2012, ¶¶55-61, 68). For example, RFC 6265, which has been the

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

“unique identifier”

1. A method comprising:
receiving first anonymous data associated with a first browser session initialized by a user via a browser on a user computing device, wherein the first anonymous data comprises one or more of a time, a date, one or more uniform resource locators (URLs), a referring URL, a browser type, a language, an internet protocol (IP) address, or location data;
determining that the user accessed a URL during the first browser session;
determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
assigning the unique identifier to the user;
determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;
sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;
determining a latitude coordinate and a longitude coordinate of the user computing device, during the first browser session, wherein the latitude coordinate and the longitude coordinate are determined based on the identifying a second visit to the URL during the second browser session using the unique identifier stored in the local browser cache;

Boucq and Doughty, are sent for storage in local browser cache. A POSITA would have understood that the local browser cache is a separate mechanism from the cookie store that has a different purpose, different function, and different standard (see generally, Ex-2012, ¶¶62-67). According to the relevant standard, RFC 9111,

Three Different Storage Locations

1. A method comprising:
receiving first anonymous data associated with a first browser session initialized by a user via a browser on a user computing device, wherein the first anonymous data comprises one or more of a time, a date, one or more uniform resource locators (URLs), a referring URL, a browser type, a language, an internet protocol (IP) address, or location data;
determining that the user accessed a URL during the first browser session;
determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
assigning the unique identifier to the user;
determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;
sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;
determining a latitude coordinate and a longitude coordinate of the user computing device, during the first browser session, wherein the latitude coordinate and the longitude coordinate are determined based on the identifying a second visit to the URL during the second browser session using the unique identifier stored in the local browser cache;

Data	Storage Location
“stored location data“	database or other storage location (NOT in the cookie)
“location tracker“	cookie store (NOT part of the local browser cache)
“unique identifier“	local browser cache

Limitations 1[c] and 1[d]

Doughty

triggering event on the part of first device 101. Upon receiving the user's activity information, server 104 assigns a unique identifier, which could be alphabetical, numerical, alphanumerical, or symbols to first device 101 and stores the assigned unique identifier, user information and activity information into table 105. In embodiments, table 105 may store addi-

served. The matchkey is provided by the MKP passing either obfuscated or encrypted PII (oPII), typically name, address, email, and zip code; or a consistent cross-channel user identifier, typically a login ID or internal user ID; or an MKP ID, which is user ID that is pre-processed to match with the data sources. Use of cookie reflection or 302/303 redirects, as is known in the art, may be used to effectuate communication of a device with the advertising network.

determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
assigning the unique identifier to the user;

Van Boucq

[0060] In a first approach according to the operational diagram 200, when the ad window 210 is called up on the website consulted by the Internet user, the HTTP (hypertext transfer protocol) communication protocol 220 is verified by the Web browser to determine whether the Internet user has already previously geolocated him/herself and already has a cookie (connection cookie), which makes it possible to determine whether the geolocation of said Internet user has already been stored in a browsing device, for example a desktop or laptop computer, a digital tablet, a cell phone or an augmented reality system. If the Internet user has already been geolocated and if the user's geolocation has already been stored in the communication system, said communication system will directly search the database containing the ads 230 to check whether a local ad 240 can be displayed based on the Internet user's precise geolocation. If the Internet user's geolocation corresponds to a local ad 240, then this local ad 240 will be displayed.

Limitations 1[c] and 1[d]

determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
assigning the unique identifier to the user;

Patent Owner's District Court Filing

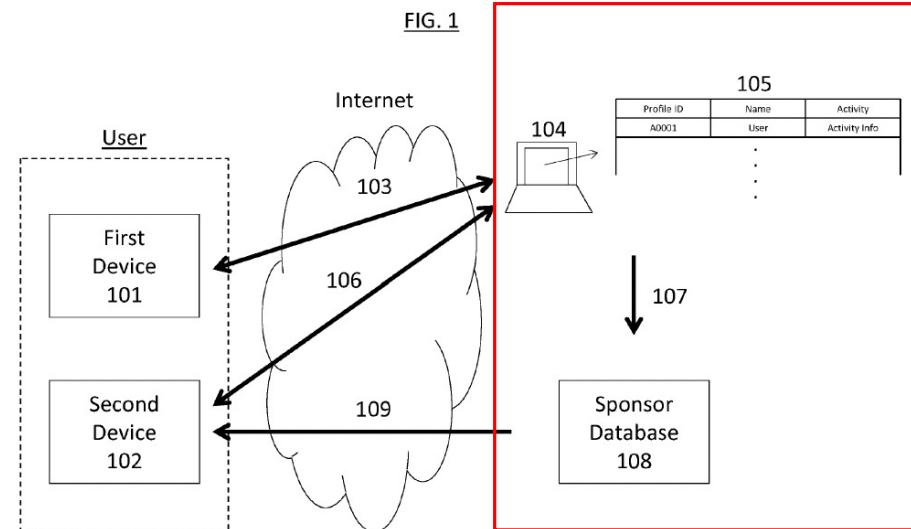
Launch Labs raises claim construction issues. First, the asserted claims other than claims 1 and 2 of the '219 patent state: "determining whether the user opted-in to our out of location tracking, based on whether a location tracker is installed on the computing device." The "location tracker" is properly construed as the third-party tracking cookie cookie)"). If the third-party cookie is not present (e.g., in the local browser cache), an assigned unique identifier is sent to the user's "local browser cache."

Limitations 1[c] and 1[d]

determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device; assigning the unique identifier to the user;

Doughty

triggering event on the part of first device 101. Upon receiving the user's activity information, server 104 assigns a unique identifier, which could be alphabetical, numerical, alphanumeric, or symbols to first device 101 and stores the assigned unique identifier, user information and activity information into table 105. In embodiments, table 105 may store addi-



Limitations 1[c] and 1[d]

determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
assigning the unique identifier to the user;

Doughty

In the embodiment shown in FIG. 1, server 104 communicates with first device 101 to receive information relating to the user's activity on first device 101. A user's activity may be behavioral pattern, viewing habits, usage information, duration on each application, geographic location information, proximity to other locations, etc. The user activity informa-

'947 Patent

The computing device may determine that there is no unique identifier associated with the user computing device when there is no location data stored for the user computing device. For example, the computing device may access a database or other storage location that maintains a mapping of unique identifier to a browser session, a user computing device, and/or location data. Additionally or alternatively,

Limitations 1[c] and 1[d]

determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device; assigning the unique identifier to the user;

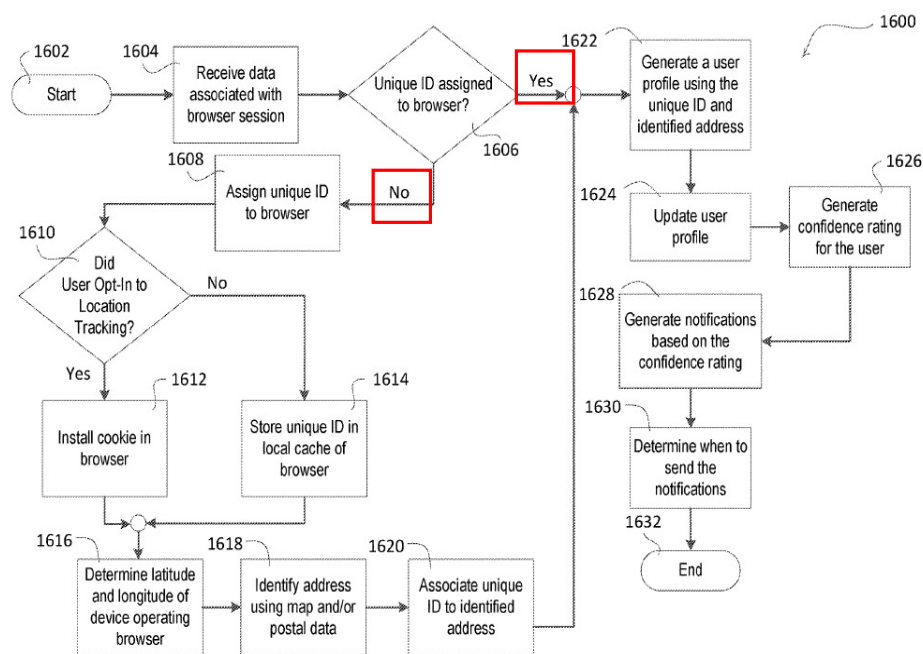


FIG. 16

Steps Applicable to the Unique Identifier/Lack of Stored Location Data

Embodiment: At 1608, if the computing device determines that no unique identifier has been assigned based on a lack of stored location data, the computing device generates a unique identifier for that user (Ex-1001, 44:5-8; Ex-2012, ¶76). When the computing device determines (1606) that a unique ID was previously assigned to the browser, the user is no longer anonymous and the system updates the user profile (1622-1632) (Ex-1001, 44:1-4; Ex-2012, ¶76).

The computing device may determine that there is no unique identifier associated with the user computing device when there is no location data stored for the user computing device. For example, the computing device may access a database or other storage location that maintains a mapping of unique identifier to a browser session, a user computing device, and/or location data. Additionally or alternatively,

Limitations 1[c] and 1[d]

determining that the user has not been assigned a unique identifier based on a lack of stored location data for the user computing device;
assigning the unique identifier to the user;



“[I]t is well settled that a disclosure that anticipates under § 102 also renders the claim invalid under § 103, for anticipation is the epitome of obviousness.”

Realtime Data, LLC v. Iancu, 912 F. 3d 1368, 1373 (Fed. Cir. 2019) (quotations omitted)

Limitation 1[e]

Doughty

respectively. Examples of the behavioral data include, but not limited to, location information, duration at each location, potential commercial activity in the location and actual commercial activity in the location. Again, server 104 may receive behavioral data 901 and location info 902 based on a request from server 104, a periodic transmission by first device 101 and second device 102, or a triggering event on the part of first device 101 and second device 102. Server 104 then makes a

determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;

Van Boucq

[0063] In a second approach according to the operational diagram 200, when the ad window 210 is called up on the website consulted by the Internet user, the HTTP communication protocol 220 is verified by the Web browser to determine whether the Internet user has already previously geolocated him/herself and already has a cookie (connection cookie), which makes it possible to determine whether the geolocation of said Internet user has already been stored in a browsing device, for example a desktop or laptop computer, a digital tablet, a cell phone or an augmented reality system. If the Internet user has not previously geolocated and therefore the user's geolocation is not yet known to the Web browser, the Web browser will send a pop-up (message) 270 asking the user if he/she wishes to be geolocated. If said Internet user refuses to be geolocated or ignores the pop-up, the communication system will still locate the Internet user according to the IP address 290 of that user's connection to a computer network, resulting in the creation of a cookie whose lifespan varies according to the browsing device. For example, the lifespan of a cookie can be shorter for a mobile browsing device than for a stationary browsing device.

Limitation 1[e]

determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;

Van Boucq discloses dynamic location tracking

[0063] In a second approach according to the operational diagram 200, when the ad window 210 is called up on the website consulted by the Internet user, the HTTP communication protocol 220 is verified by the Web browser to determine whether the Internet user has already previously geolocated him/herself and already has a cookie (connection cookie), which makes it possible to determine whether the geolocation of said Internet user has already been stored in a browsing device, for example a desktop or laptop computer, a digital tablet, a cell phone or an augmented reality system. If the Internet user has not previously geolocated and therefore the user's geolocation is not yet known to the Web browser, the Web browser will send a pop-up (message) 270 asking the user if he/she wishes to be geolocated. If said Internet user refuses to be geolocated or ignores the pop-up, the communication system will still locate the Internet user according to the IP address 290 of that user's connection to a computer network, resulting in the creation of a cookie whose lifespan varies according to the browsing device. For example, the lifespan of a cookie can be shorter for a mobile browsing device than for a stationary browsing device.

Limitation 1[e]

Van Boucq

[0063] In a second approach according to the operational diagram 200, when the ad window 210 is called up on the website consulted by the Internet user, the HTTP communication protocol 220 is verified by the Web browser to determine whether the Internet user has already previously geolocated him/herself and already has a cookie (connection cookie), which makes it possible to determine whether the geolocation of said Internet user has already been stored in a browsing device, for example a desktop or laptop computer, a digital tablet, a cell phone or an augmented reality system. If the Internet user has not previously geolocated and therefore the user's geolocation is not yet known to the Web browser, the Web browser will send a pop-up (message) 270 asking the user if he/she wishes to be geolocated. If said Internet user refuses to be geolocated or ignores the pop-up, the communication system will still locate the Internet user according to the IP address 290 of that user's connection to a computer network, resulting in the creation of a cookie whose lifespan varies according to the browsing device. For example, the lifespan of a cookie can be shorter for a mobile browsing device than for a stationary browsing device.

determining whether the user opted-in to or out of location tracking, based on whether a location tracker is installed on the user computing device;

Patent Owner's District Court Filing

Launch Labs raises claim construction issues. First, the asserted claims other than claims 1 and 2 of the '219 patent state: "determining whether the user opted-in to our out of location tracking, based on whether a location tracker is installed on the computing device." The "location tracker" is properly construed as the third-party tracking cookie (cookie)". If the third-party cookie is not present (e.g., in the local browser cache), an assigned unique identifier is sent to the user's "local browser cache."

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Van Boucq

[0063] In a second approach according to the operational diagram 200, when the ad window 210 is called up on the website consulted by the Internet user, the HTTP communication protocol 220 is verified by the Web browser to determine whether the Internet user has already previously geolocated him/herself and already has a cookie (connection cookie), which makes it possible to determine whether the geolocation of said Internet user has already been stored in a browsing device, for example a desktop or laptop computer, a digital tablet, a cell phone or an augmented reality system. If the Internet user has not previously geolocated and therefore the user's geolocation is not yet known to the Web browser, the Web browser will send a pop-up (message) 270 asking the user if he/she wishes to be geolocated. If said Internet user refuses to be geolocated or ignores the pop-up, the communication system will still locate the Internet user according to the IP address 290 of that user's connection to a computer network, resulting in the creation of a cookie whose lifespan varies according to the browsing device. For example, the lifespan of a cookie can be shorter for a mobile browsing device than for a stationary browsing device.

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Limitation 1[f]

Doughty

An advertising network ID is set when a user logs into a publisher or application (a “matchkey provider” (MKP)). The user is recognized when the application sends the advertising network the hardware ID. The advertising network may see an ID in the header, or a publisher attaches a pixel associated with the advertising network that enables a cookie to be served. The matchkey is provided by the MKP passing either obfuscated or encrypted PII (oPII), typically name, address, email, and zip code; or a consistent cross-channel user identifier, typically a login ID or internal user ID; or an MKP ID, which is user ID that is pre-processed to match with the data sources. Use of cookie reflection or 302/303 redirects, as is known in the art, may be used to effectuate communication of a device with the advertising network.

sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;

Van Boucq

[0063] In a second approach according to the operational diagram 200, when the ad window 210 is called up on the website consulted by the Internet user, the HTTP communication protocol 220 is verified by the Web browser to determine whether the Internet user has already previously geolocated him/herself and already has a cookie (connection cookie), which makes it possible to determine whether the geolocation of said Internet user has already been stored in a browsing device, for example a desktop or laptop computer, a digital tablet, a cell phone or an augmented reality system. If the Internet user has not previously geolocated and therefore the user’s geolocation is not yet known to the Web browser, the Web browser will send a pop-up (message) 270 asking the user if he/she wishes to be geolocated. If said Internet user refuses to be geolocated or ignores the pop-up, the communication system will still locate the Internet user according to the IP address 290 of that user’s connection to a computer network, resulting in the creation of a cookie whose lifespan varies according to the browsing device. For example, the lifespan of a cookie can be shorter for a mobile browsing device than for a stationary browsing device.

Limitation 1[f]

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Patent Owner's District Court Filings

```
getGuid: function() {  
  fetch("https://kmdu238m3i.execute-api.us-east-1.amazonaws.com/prod/uuid").then(function(e) {  
    var t = e.headers.get("ETag");  
    t ? at.setCookie("atguid", t, 999) : at.setCookie("atguid", at.guid(), 999),  
    at.registerSessionAndSetupEngagements(!0)  
  })  
},
```

Launch Labs raises claim construction issues. First, the asserted claims other than claims 1 and 2 of the '219 patent state: "determining whether the user opted-in to our out of location tracking, based on whether a location tracker is installed on the computing device." The "location tracker" is properly construed as the third-party tracking cookie cookie)". If the third-party cookie is not present (e.g., in the local browser cache), an assigned unique identifier is sent to the user's "local browser cache."

Limitation 1[f]

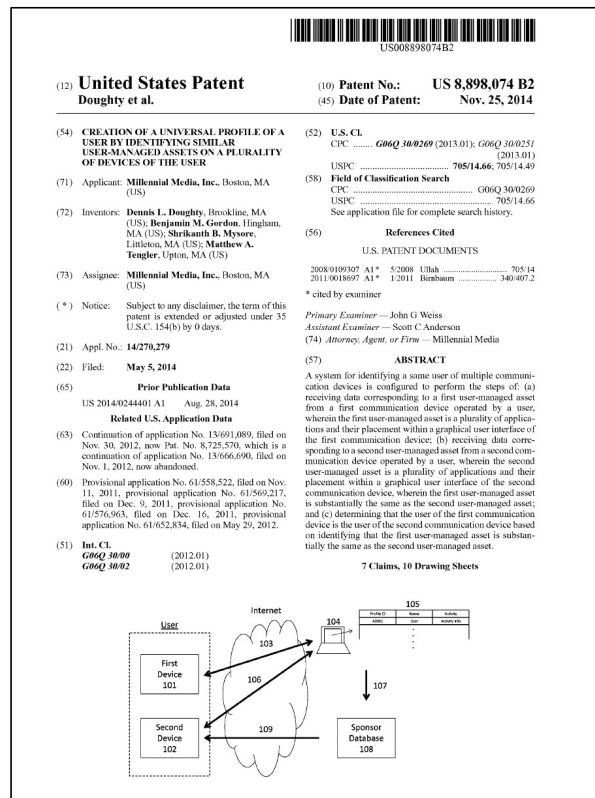
Doughty

An advertising network ID is set when a user logs into a publisher or application (a “matchkey provider” (MKP)). The user is recognized when the application sends the advertising network the hardware ID. The advertising network may see an ID in the header, or a publisher attaches a pixel associated with the advertising network that enables a cookie to be served. The matchkey is provided by the MKP passing either

sending, upon determining that the user opted-out of location tracking, the unique identifier to the user computing device for storage in a local browser cache;

Used in combination with cookies and match keys, a pixel tag is usually a transparent graphic image, usually no larger than one pixel by one pixel, placed on a webpage or in an email. It is used to monitor the behavior of the user visiting the webpage or sending the e-mail. When the HTML code for the pixel tag points to a site to retrieve the image, it can simultaneously pass along information, such as the IP address of the computer that retrieved the image, the type of browser that retrieved the image, and previously set cookie values. Pixel tags are typically used by a third-party to monitor the activity of a site. A pixel tag can be detected by viewing the source code of a webpage and looking for any that load from a different server than the rest of the site. Turning off the browser’s cookies will prevent pixel tags from tracking the user’s activity. The pixel tag will still account for an anonymous visit, but the user’s unique information will not be recorded.

Doughty's Embodiments Are Compatible



Profile-ID Embodiment: Doughty's Profile-ID Embodiment focuses on

assigning an identifier to each device, determining whether the devices are associated with the same user based on user activity, and linking the assigned device identifiers,

so that an advertiser can send advertisements to both devices based on knowing that

both devices belong to the same user (Ex-1008, 10:34-67; Ex-2012, ¶95).

MKP Embodiment: Doughty discloses “another embodiment” (i.e., “MKP

Embodiment”) in which “an advertising network” identifies “match keys for the

same user across wired web, mobile web, and mobile application traffic,” to enable

the “advertising network” to collapse a profile for a user and create [sic] universal

profile” (Ex-1008, 16:38-42; Ex-2012, ¶99). Doughty discloses a two-step process.

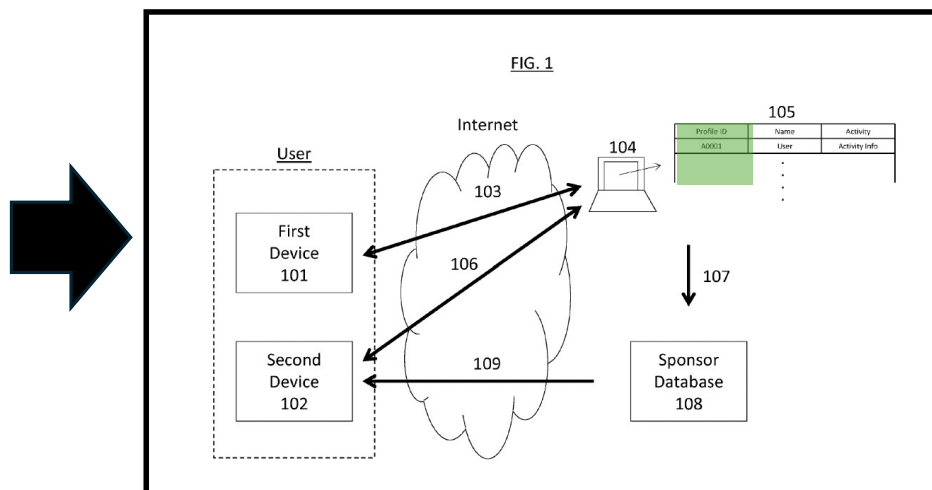
Doughty's Embodiments Create a Unique ID

Profile-ID Embodiment

In the embodiment shown in FIG. 1, server 104 communicates with first device 101 to receive information relating to the user's activity on first device 101. A user's activity may be behavioral pattern, viewing habits, usage information, duration on each application, geographic location information, proximity to other locations, etc. The user activity information is communicated through communication signal 103. User activity information may be continually, or periodically, updated for the user by first device 101. Further, user activity information may be transmitted based on a request from server 104, a periodic transmission by first device 101, or a triggering event on the part of first device 101. Upon receiving the user's activity information, server 104 assigns a unique identifier, which could be alphabetical, numerical, alphanumeric, or symbols to first device 101 and stores the assigned unique identifier, user information and activity information into table 105. In embodiments, table 105 may store addi-

MKP Embodiment

An advertising network may uniquely identify a user by creating a hashed (e.g., anonymized) email address upon noticing the user the first time. The advertising network matches the user to his email address and then hashes the email address.



Doughty's Embodiments Create a Universal Profile

Profile-ID Embodiment

FIG. 8 depicts a flowchart illustrating the steps of linking multiple devices together based on highly similar use patterns from the multiple devices. The process starts with step 801 by receiving from a first communication device data corresponding to a first use pattern from interaction by a user of a first communication device with the first communication device. Step 802 receives from a second communication device data corresponding to a second use pattern from interaction by a user of a second communication device with the second communication device. Step 803 compares the first use pattern to the second use pattern and determines whether the communication devices are used by the same user. If Step 803 determines that the users are not the same, then the process will stop at Step 804. If Step 803 determines that the users are the same, then the process will go to Step 805. Step 805 then creates and saves the user in a universal profile that includes both first device 101 and second device 102.

MKP Embodiment

In another embodiment of the present invention, a key activity for an advertising network is to identify match keys for the same user across wired web, mobile web, and mobile application traffic. This enables an advertising network to collapse a profile for a user and create a universal profile. PC-online and offline data suppliers link users to cookies online via anonymous Personally Identifiable Information (PII), known as match keys or "join points." The process entails linking elements such as a name, address, email address or phone number to an identifying "number" on both sides of the transaction, linking a log-in on a mobile website or application with the data suppliers' profile data for that user.

Doughty's Embodiments Create a Universal Profile

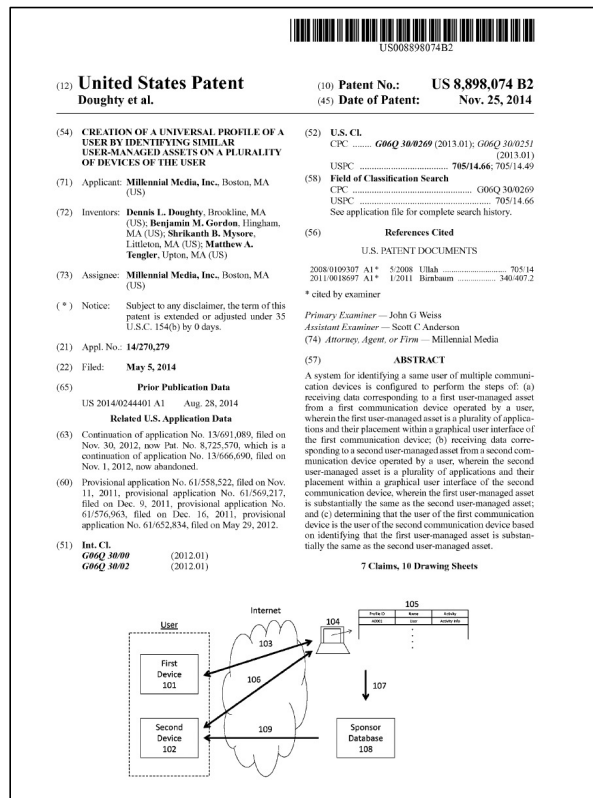
Profile-ID Embodiment

An advertising network aggregates data from webpages and applications that are inside or outside its own network. This creates multiple vantage points on the users the advertising network encounters. If a log-in is available, the advertising network will seek to gain access to match keys and make additional links between PC-online (or other non-mobile medium) and mobile. The data the advertising network amasses will be made available to advertisers under the advertising network's brand.

MKP Embodiment

An advertising network ID is set when a user logs into a publisher or application (a "matchkey provider" (MKP)). The user is recognized when the application sends the advertising network the hardware ID. The advertising network may see

Doughty's Embodiments Are Compatible



Although the invention has been described in detail for the purpose of illustration based on what is currently considered to be the most practical and preferred embodiments, it is to be understood that such detail is solely for that purpose and that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover modifications and equivalent arrangements that are within the spirit and scope of the appended claims. For example, **it is to be understood that the present invention contemplates that, to the extent possible, one or more features of any embodiment can be combined with one or more features of any other embodiment.**

Thus, in one aspect, **each method described above and combinations thereof** may be embodied in computer executable code that, when executing on one or more computing devices, performs the steps thereof. In another aspect, the

Limitation 1[I]

Doughty

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identifying a second visit to the URL during the second browser session using the unique identifier stored in the local browser cache;

Van Boucq

[0063] In a second approach according to the operational diagram 200, when the ad window 210 is called up on the website consulted by the Internet user, the HTTP communication protocol 220 is verified by the Web browser to determine whether the Internet user has already previously geolocated him/herself and already has a cookie (connection cookie), which makes it possible to determine whether the geolocation of said Internet user has already been stored in a browsing device, for example a desktop or laptop computer, a digital tablet, a cell phone or an augmented reality system. If the Internet user has not previously geolocated and therefore the user's geolocation is not yet known to the Web browser, the Web browser will send a pop-up (message) 270 asking the user if he/she wishes to be geolocated. If said Internet user refuses to be geolocated or ignores the pop-up, the communication system will still locate the Internet user according to the IP address 290 of that user's connection to a computer network, resulting in the creation of a cookie whose lifespan varies according to the browsing device. For example, the lifespan of a cookie can be shorter for a mobile browsing device than for a stationary browsing device.

