

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FOURSQUARE LABS, INC.,

Petitioner,

v.

BOARDACTIVE CORPORATION,

Patent Owner.

IPR2023-00918

U.S. Patent No. 10,621,620

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,621,620**

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EXHIBIT LIST

No	Name
1001	U.S. Patent No. 10,621,620
1002	Declaration of Dr. Steven Goldberg, Ph.D.
1003	Petitioner's Power of Attorney
1004	U.S. Patent Application Publication No. 2015/0095124 ("Verizon")
1005	U.S. Patent Application Publication No. 2016/0309292 ("Kerr")
1006	U.S. Patent Application Publication No. 2015/0262214 ("Geer")
1007	International Publication No. WO 2017/079838 A1 ("Muhire")
1008	U.S. Patent No. 9,094,137 ("Sehn")
1009	European Patent Publication No. 2424278 A1 ("Alcatel")
1010	U.S. Patent No. 8,391,886 ("Cellco")

APPENDIX OF CLAIMS

INDEPENDENT CLAIM 1

Claim 1, Preamble: A method comprising:

Element 1(a): registering asset data, wherein registering the asset data comprises at least one of the following:

1(a)(i): registering a first geolocation associated with one of the following:

1(a)(i)(1): a physical asset, and

1(a)(i)(2): a virtual asset;

Element 1(b): receiving media content to be associated with at least one registered asset, wherein the media content is configured to be operative with a content interaction layer and a consumer tracking layer to enable:

1(b)(i): interacting with a consumer of the media content in conjunction with, at least in part, the media content, and

1(b)(ii): tracking the consumer of the media content in conjunction with, at least in part, the media content;

Element 1(c): specifying a plurality of rules for selecting the media content to deliver to the consumer, wherein specifying the plurality of rules comprises specifying:

1(c)(i): a first rule for delivering the media content, the first rule being associated with at least one element of profile data corresponding with the consumer, and

1(c)(ii): a second rule for updating the media content, the second rule being associated with a second geolocation;

Element 1(d): receiving an activation command for triggering a delivery of the media content, wherein receiving the activation command comprises at least one of the following:

1(d)(i): determining that a spatial trigger has occurred,

1(d)(ii): determining that a time-based trigger has occurred, and

1(d)(iii): determining that an event has occurred,

Element 1(e): comparing the first rule and the at least one element of profile data associated with the consumer in order to determine whether to deliver the media content to the consumer;

Element 1(f): delivering the media content to a device associated with the consumer when the first rule is met;

Element 1(g): tracking a location associated with the consumer further to the delivery of the media content;

Element 1(h): comparing the second rule and the location in order to determine whether to update the media content; and

Element 1(i): updating the media content at the device associated with the consumer when the second rule is met.

CLAIM 2: The method of claim 1, wherein registering the asset data comprises registering a mobile asset, the mobile asset being associated with location tracking technology.

CLAIM 3: The method of claim 2, further comprising:

Element 3(a): tracking the mobile asset, and

Element 3(b): updating a database with an up-to-date location data associated with the location tracking technology.

CLAIM 4: The method of claim 3, wherein tracking the mobile asset comprises accessing the database with the up-to-date location data and retrieving the up-to-date location data.

CLAIM 5: The method of claim 3, wherein tracking the mobile asset comprises communicating with the location tracking technology associated with the mobile asset.

CLAIM 6: The method of claim 2, wherein receiving the activation command for triggering the delivery of the media content comprises determining that the consumer is in a spatial proximity to an up-to-date location of the mobile asset.

CLAIM 7: The method of claim 1, wherein registering the asset data comprises registering a brand asset, wherein the brand asset is comprised of a digitization of at least one of the following:

Element 7(a): a trade name,

Element 7(b): a trade design,

Element 7(c): a trade logo, and

Element 7(d): a source-identifier associated with a brand.

CLAIM 8: The method of claim 7, further comprises:

Element 8(a): receiving a multimedia content, and

Element 8(b): processing the multimedia content to ascertain an object within the multimedia content that corresponds to the brand asset.

CLAIM 9: The method of claim 8, wherein receiving the activation command for triggering the delivery of the media content comprises ascertaining that the brand asset is present within the multimedia content.

CLAIM 10: The method of claim 8, wherein receiving the multimedia content comprises receiving the multimedia content comprising an image captured by the consumer.

CLAIM 11: The method of claim 1, wherein delivering the media content comprises delivering a plurality of content types, wherein each of the plurality of content types is configured to be delivered based on tailored delivery rules.

CLAIM 12: The method of claim 11, further comprising tailoring at least one of: a content type and a delivery rule to the at least one element of profile data associated with the consumer.

CLAIM 13: The method of claim 11, further comprising tailoring at least one of: a content type and a delivery rule to a characteristic of a device type associated with the consumer.

CLAIM 14: The method of claim 1, further comprising tracking at least one action associated with the consumer, wherein tracking the at least one action comprises communicating with the consumer tracking layer operated on at least one device associated with the consumer.

CLAIM 15: The method of claim 14, wherein tracking the at least one action comprises employing the consumer tracking layer to track at least one of the following:

Element 15(a): location data,

Element 15(b): sensor data,

Element 15(c): telemetry data,

Element 15(d): device usage data, and

Element 15(e): a unique identifier.

CLAIM 16: The method of claim 15, further comprising compiling analytics based on the at least one action.

CLAIM 17: The method of claim 1, wherein delivering the media content comprises engaging a transmission module configured to transmit the media content when the consumer is within a physical proximity to the first geolocation.

CLAIM 18: The method of claim 1, wherein determining that the spatial trigger has occurred comprises:

Element 18(a): receiving location data from the consumer tracking layer in operative communication with at least one device associated with the consumer.

CLAIM 19: The method of claim 18, further comprising, determining, based on the location data, that the recipient is in proximity to the first geolocation.

CLAIM 20: The method of claim 1, wherein determining that the time-based trigger has occurred comprises at least one of the following:

Element 20(a): determining that a predefined time has been met,

Element 20(b): receiving a manual triggering event, and

Element 20(c): accessing schedule data from a data storage.

CLAIM 21: The method of claim 1, wherein determining that the time-based trigger has occurred comprises at least one of the following:

Element 21(a): receiving a designation of a time, and

Element 21(b): determining that the consumer is in a proximity to at least one of: the first geolocation and the second geolocation at the designated time.

CLAIM 22: The method of claim 1, further comprising specifying, for the media content, interactivity criteria.

CLAIM 23: The method of claim 1, further comprising receiving an indication that the consumer is moving at a particular path, towards the second geolocation and within a designated period of time.

CLAIM 24: The method of claim 22, wherein specifying the interactivity criteria comprises specifying:

Element 24(a): a change in a physical location associated with the consumer,

Element 24(b): a particular destination to which the consumer must navigate,
and

Element 24(c): a particular time period in which the consumer must fulfill the interactivity criteria.

CLAIM 25: The method of claim 22, wherein tracking the location associated with the consumer comprises tracking the location relative to the interactivity criteria.

CLAIM 26: The method of claim 25, further comprising tracking, via the consumer tracking layer, telemetry data.

CLAIM 27: The method of claim 24, wherein updating the media content comprises updating the media content upon a fulfillment of the interactivity criteria.

INDEPENDENT CLAIM 28

Claim 28, Preamble: A method comprising:

Element 28(a): registering asset data, wherein registering the asset data comprises at least one of the following:

28(a)(i): registering a first geolocation associated with one of the following:

28(a)(i)(1): a physical asset, and

28(a)(i)(2): a virtual asset;

Element 28(b): receiving media content to be associated with at least one registered asset;

Element 28(c): specifying a plurality of rules for delivering the media content, wherein specifying the plurality of rules comprises specifying:

28(c)(i): a first delivery rule associated with at least one element of profile data corresponding with a recipient of the media content, and

28(c)(ii): a second delivery rule associated with a second geolocation at which the recipient is tracked;

Element 28(d): receiving an indication that the recipient is proximate to the first geolocation, comparing the first delivery rule and the at least one element of profile data associated with the recipient;

Element 28(e): tracking a location associated with the recipient in response to a matching comparison;

Element 28(f): comparing the second delivery rule and the location in order to determine whether the recipient is proximate to the second geolocation; and

Element 28(g): delivering, upon fulfillment of the first delivery rule and the second delivery rule, the media content to the recipient.

INDEPENDENT CLAIM 29

Claim 29, Preamble: A computer-readable medium comprising a set of instructions which when executed perform a method, the method comprising:

Element 29(a): registering asset data, wherein registering the asset data comprises at least one of the following:

29(a)(i): registering a first geolocation associated with one of the following:

29(a)(i)(1): a physical asset, and

29(a)(i)(2): a virtual asset;

Element 29(b): receiving media content to be associated with at least one registered asset;

Element 29(c): specifying a plurality of rules for delivering the media content, wherein specifying the plurality of rules comprises specifying:

29(c)(i): a first delivery rule associated with a period of time, and

29(c)(ii): a second delivery rule associated with a second geolocation at which a recipient is tracked during the period of time;

Element 29(d): receiving an indication that the recipient is proximate to the first geolocation;

Element 29(e): tracking a location associated with the recipient in response to a matching comparison;

Element 29(f): comparing the second delivery rule and the location in order to determine whether the recipient is proximate to the second geolocation; and

Element 29(g): delivering, upon fulfillment of the first delivery rule and the second delivery rule, the media content to the recipient.

Foursquare Labs, Inc., (hereinafter “Petitioner”), petitions for *inter partes* review (“IPR”) of claims 1-29 (the “Challenged Claims”) of U.S. Patent No. 10,621,620 (Ex. 1001, the “‘620 Patent”), assigned to BoardActive Corp.

I. IDENTIFICATION OF CHALLENGES

Petitioner requests institution of IPR of claims 1-29 of the ‘620 Patent on the grounds indicated below, and requests each Challenged Claim be found unpatentable. A detailed explanation of each identified grounds is found in Sections V-XVI. Arguments and evidence for each claim is incorporated by reference for all claims dependent thereon.

‘620 CHART		
Ground	Challenged Claims	Statutory Ground and Prior Art
Ground 1	28 & 29	Anticipated under 35 U.S.C. §102 by Verizon (Ex. 1004)
Ground 2	28 & 29	Obvious under 35 U.S.C. §103 over Verizon in view of Kerr (Ex. 1005) and/or Geer (Ex. 1006)
Ground 3	1-6 & 11-27	Obvious under 35 U.S.C. §103 over Verizon
Ground 4	1-6 & 11-27	Obvious under 35 U.S.C. §103 over Verizon in view of Muhire (Ex. 1007)
Ground 5	1-6 & 11-27	Obvious under 35 U.S.C. §103 over Verizon alone or with Muhire, further in view of Kerr
Ground 6	7-10	Obvious under 35 U.S.C. §103 over Verizon with Kerr (or also Muhire), further in view of Sehn (Ex. 1008)

Ground 7	1 & 11-27	Obvious under 35 U.S.C. §103 over Alcatel (Ex. 1009) in view of Kerr
Ground 8	1 & 11-27	Obvious under 35 U.S.C. §103 over Alcatel and Kerr, further in view of Muhire
Ground 9	1-6 & 22-27	Obvious under 35 U.S.C. §103 over Alcatel and Kerr, further in view of Verizon
Ground 10	1-6 & 22-27	Obvious under 35 U.S.C. §103 over Alcatel, Kerr, and Muhire, further in view of Verizon
Ground 11	7-10	Obvious under 35 U.S.C. §103 over Alcatel, Kerr (or also Muhire), and Verizon, further in view of Sehn
Ground 12	28 & 29	Anticipated under 35 U.S.C. § 102 over Alcatel
Ground 13	28 & 29	Obvious under 35 U.S.C. §103 over Alcatel in view of Kerr and/or Geer

The ‘620 Patent issued on April 14, 2020 from U.S. Application No. 15/950,019, filed April 10, 2018, and purports to claim priority, as a continuation-in-part application, to an earlier-filed patent application, U.S. 15/483,790, filed April 10, 2017. As such, the Challenged Claims of the ‘620 Patent are entitled to a priority date no earlier than April 10, 2017, as the earliest potential effective filing date (“EPEFD”).

U.S. Patent Application Publication No. 2015/0095124 (“Verizon”) was filed on September 27, 2013 and published on April 2, 2015, Ex. 1004.

Kerr et al., U.S. Patent Application Publication No. 2016/0309292 (“Kerr”) was filed on April 15, 2016 and published on October 20, 2016, Ex. 1005.

Geer, U.S. Patent Application Publication No. 2015/0262214 (“Geer”) was filed on February 10, 2015 and published on September 17, 2015, Ex. 1006.

Muhire et al., International Publication No. WO 2017/079838 A1 (“Muhire”) was filed on November 10, 2016 and published on May 18, 2017, Ex. 1007.

Sehn, U.S. Patent No. 9,094,137 (“Sehn”) was filed on October, 24, 2014 and published on July 28, 2015, Ex. 1008.

European Patent Publication No. 2424278 A1 (“Alcatel”) was filed on December 21, 2010 and published on February 29, 2012, Ex. 1009.

Cellco, U.S. Patent No. 8,391,886 (“Cellco”) was filed on July 14, 2010 and published on March 5, 2013, Ex. 1010.

Verizon, Kerr, Geer, Muhire, Sehn, Alcatel, and Cellco are each prior art to the ‘620 Patent under 35 U.S.C. § 102(a)(1) by publication date predating the EPEFD, and/or under 35 U.S.C. § 102(a)(2) as a published patent application naming another inventor, and effectively filed before the EPEFD. None of Verizon, Kerr, Geer, Muhire, Sehn, Alcatel, and Cellco were before the Examiner during prosecution.

II. GROUNDS FOR STANDING

Petitioner certifies the ‘620 Patent is eligible for, and Petitioner is not barred or estopped from requesting, IPR on the grounds identified herein. Petitioner was

first served with a complaint alleging infringement of the ‘620 Patent on May 9, 2022. This Petition is timely filed within the one year period of 35 U.S.C. §315(b).

III. LEVEL OF ORDINARY SKILL

A person of ordinary skill in the art at the time of the alleged invention of the ‘620 Patent (“POSITA”) would have had a Bachelor of Science Degree in Computer Science, Electrical Engineering, Computer Engineering or equivalent, and about two to three years of practical experience. Additional experience may substitute for specific education, or specific education may substitute for experience. Ex. 1002, Declaration of Dr. Goldberg, Ph. D., (“DEC.”), ¶26.

IV. CLAIM CONSTRUCTION

Pursuant to 37 C.F.R. § 42.100(b), the applicable claim construction standard is the same standard used in federal district court. Petitioner believes that the constructions of terms can be appreciated from their overall discussion and application of prior art herein, and does not require express construction at this time, reserving all rights to support its interpretations.¹

¹ Petitioner’s expressed or implied constructions are made without admission regarding the suitability of such terms for construction based on grounds not appropriate for IPR. Petitioner reserves all rights to challenge such terms, including under 35 U.S.C. §112.

V. OVERVIEW

The Challenged Claims concern the use of location information in determining advertising content distribution, which may additionally consider other factors such as proximity or time. These concepts were well-known before the '620 Patent was filed.

As discussed herein, with reference to the Appendix of Claims, each of Verizon and Alcatel teaches the architecture of the claims and, at times, even discloses or suggests additional aspects such as layers, profile data, use of location, interfaces, or routine processing operations, as recited therein.

For example, as discussed in detail herein, Verizon discloses methods for distribution of advertisements in consideration of the user's location relative to points-of-interest, such as businesses. Verizon distributes advertisements to mobile phones, displays, and vehicles, provides advertisement updating, and considers user activity in providing content. Alcatel discloses content delivery, such as for advertisements, based on the user's travel in a particular direction.

To the extent either Verizon or Alcatel lacks particular discussion on common aspects such as registration or layers supporting their disclosed operations, such aspects were known to the artisan and/or taught by other prior art.

**VI. GROUNDS 1 & 2: VERIZON - §102 / VERIZON AND KERR
AND/OR GEER - §103**

Verizon anticipates claims 28 and 29. As discussed in detail hereinafter, Verizon's discloses a system and method for delivering tailored content, such as advertisements to mobile devices, based on rules for location and other aspects such as profile data. Thereafter, additionally or alternatively, to the extent that Verizon lacks express or elaborate discussion on aspects such as registration or responsive tracking, in similar areas of technology, Kerr and Geer disclose registration and responsive tracking, respectively.

A. INDEPENDENT CLAIM 28

Verizon discloses each and every aspect of claim 1, including by its location-based content services to deliver tailored ads to a user's mobile device. *E.g.*, Verizon, Abstract, ¶¶[0014] ("location and time data, among other data, to send marketing content to the individuals"), [0020], [0067] (tailor marketing content).

1. Claim 28, Preamble

2. Element 28(a), 28(a)(i)-(ii)

As suggested in FIG. 1, excerpted below, Verizon discloses a method which communicates tailored content, including advertisements, to various devices like mobile phones and vehicles.

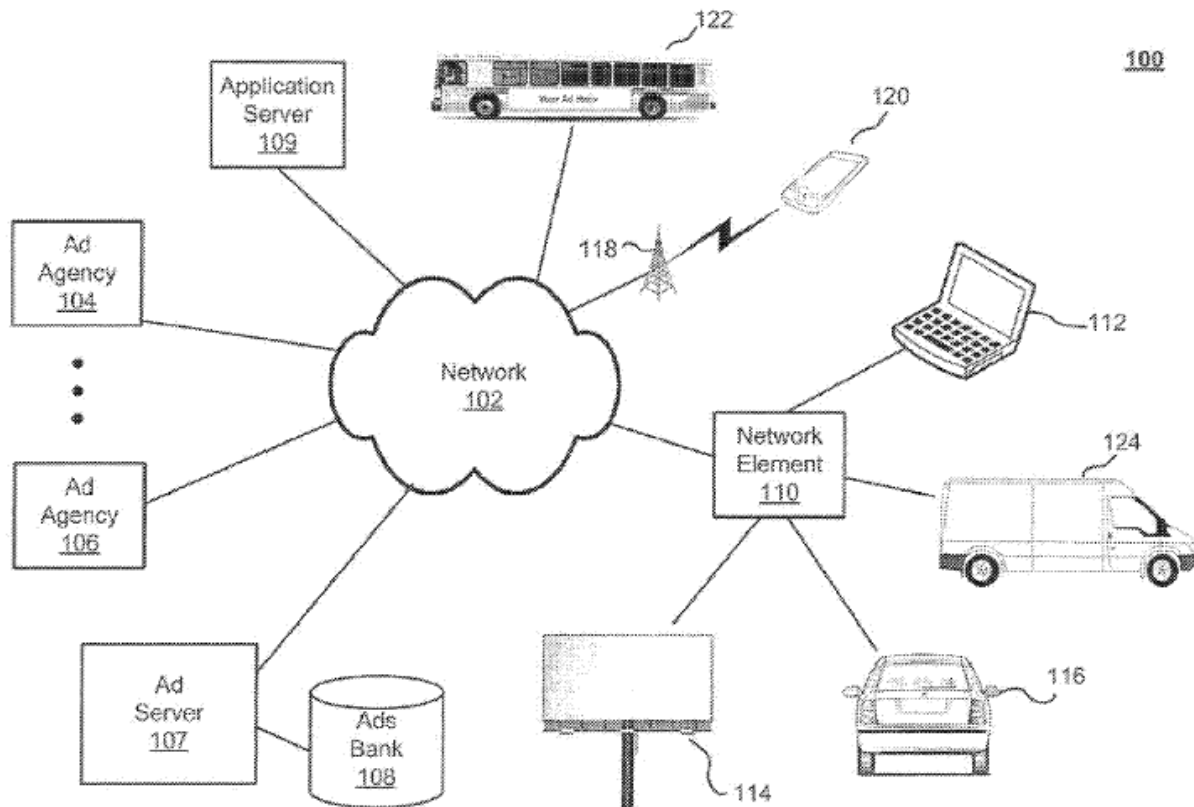


Fig. 1

Verizon – FIG. 1

As recited in claim 1, Verizon discloses its method to include registering asset data, including a first geolocation, by registering displays, businesses, or other areas of interest. *E.g.*, Verizon, ¶¶[0026], [0028] (“geographical locations of, for example, businesses, parks, institutions, or [...] mobile units 124, mobile devices 120, or even

displays 114”), [0032], [0036], [0046]; DEC., ¶¶95-97. For example, Verizon tailors advertising content to location/proximity by comparison between users’ current location and the known geolocation of the relevant business or display. Verizon, ¶¶[0036] (“Location/Proximity module 206 may also compare the location of mobile unit 124 to displays 114 [...] or displays at a particular business.”), [0042], [0046]. Thus, the geolocation of interest is registered with Verizon’s system, whether referring to display 114 or a business location, to facilitate Verizon’s tailored-content distribution. *Id.*, ¶¶[0036], [0046]; DEC., ¶¶95-97.

Verizon discloses such registration by its acknowledgement that ads are provided by third party agencies, and categorized according to location/proximity. *Id.*, ¶[0028], [0034]-[0036]; DEC., ¶96 (“asset data registered with the service provider to foster the operations”). Verizon discloses personal displays are “previously registered” for receiving content. *See* Verizon, ¶[0067]; DEC., ¶96.

Verizon discloses the geolocations pertain to physical assets, such as mobile vehicles, mobile devices, 122, 124, 116, displays 114 (*e.g.* billboards), and businesses. *E.g.*, Verizon, ¶¶[0036]. Verizon’s displays physical assets, whether arranged as vehicles, billboards, or businesses, and Verizon also discloses that its components can generally be virtual. *Id.*, ¶[0031], DEC. ¶97.

3. *Element 28(b)*

Verizon discloses receiving media content, including advertisements, to be associated with at least one registered asset as recited. *See, e.g.,* Verizon, ¶[0028] (“Ad agencies 104, 106 may provide marketing content to ad server 107 ... The marketing content may be categorized or assigned criteria based on ... business(es) associated with the marketing content ... further categorized or assigned criteria based on preferred location of display ... proximity to known geographical locations of, for example, businesses, parks, institutions, or proximity to other mobile units 124, mobile devices 120, or even displays 114.”); [0034]-[0035], [0042]; DEC., ¶98. Verizon’s display itself can be a business marketing display, and further associates the content with the business. Verizon, ¶¶[0036] (“compare the location of mobile unit 124 to displays 114 [...] or displays at a particular business.”), [0046]; DEC., ¶98.

4. *Elements 28(c), 28(c)(i)*

Verizon discloses specifying rules at least by its criteria/requirements for delivery of tailored content. *E.g.,* Verizon, ¶¶[0028] (criteria), [0048]-[0049]. For example, Verizon discloses content delivery dependent upon user profile data, including subscription/opt-in, gender, financials, age, ethnicity, education, etc. *E.g.,* Verizon, ¶¶[0048]; *see also id.*, ¶¶[0040], [0041], [0049] (user profiles/settings before distributing marketing content) [0050], [0053]. Additionally, Verizon applies relevance weighting of a user’s profile/settings to determine content delivery. *E.g.,*

Id., [0041], [0050] (profile). Verizon's consideration of user profile data when determining whether/what to deliver specifies the rule for delivering content as recited. DEC., ¶99.

5. *Element 28(c)(ii)*

Verizon discloses rules for delivery of ad content also based on a second location as recited. *E.g.*, Verizon, ¶¶[0042], [0043] (displaying on “mobile unit 124” “AD 1” at “location 1,” “AD 2” at “location 2,” and “AD 3” at “location 3.”). As the user travels to the second location, Verizon's additional specified rule of content delivery updates content by association with a second geolocation when the user (recipient) is tracked to the second geolocation. DEC., ¶100.

6. *Element 28(d)*

Verizon discloses receiving the indication that the user is proximate the first geolocation as recited, by execution of its rules. *E.g.*, Verizon, ¶¶[0023], [0036], [0042] (signals transmitted via network), [0043]. For example, Verizon receives user locations indicating their location/proximity to geolocations, such as displays or businesses, which generates delivery of related ads. *Id.*, [0042], [0043]; DEC., ¶101. Verizon compares the first rule and profile data associated with the consumer as recited, to determine whether to deliver the media content. *See, e.g.*, Verizon, ¶¶[0040], [0041], [0047] (matched), [0048], [0049] (accounting for user profiles/settings before distributing marketing content, including a “do not track”

(or, “opt-in”) option.), [0050], FIG. 4. Verizon thus receives user location and compares the user profile data with its rules, as recited, to determine whether to deliver the marketing content. DEC., ¶101.

7. Element 28(e)

Verizon discloses tracking a recipient location responsive to a matching comparison as recited, by its location-based operations and additional user activity tracking. *See, e.g.*, Verizon, ¶[0040], [0041] (“do not track” or “opt-in” “user settings”), [0050], [0053], [0069]. Verizon requires matching comparison of user profile data to be opted-in to allow location tracking. *Id.*, [0041]; DEC., ¶102. Thus, location tracking requires opt-in matching, and newly opting-in while nearby a geolocation, generates an indication to the system to begin Verizon’s general location tracking. *Id.*; Verizon, ¶[0050] (continuous user settings/profile monitoring). Verizon also discusses users consenting while walking down the street within proximity to receive ads. *Id.*, [0047]; DEC., ¶102. Moreover, Verizon discloses tracking the user’s location in response to matching of user activity profile data with its rules.

Verizon discloses that users physically approaching a business location is additionally tracked as a response or interaction with content. *E.g.*, Verizon, ¶¶[0040], [0050], [0053]. Beyond general location tracking, Verizon tracks the user’s actions which indicate relevant content. *Id.*, ¶[0050], [0053]. These actions

include “physically travelling” to the business location, qualifying as user response to ads. *Id.*, ¶[0053]. Verizon distinctly tracks user location at least by monitoring and retaining information as “historical action.” *Id.*, [0050]. Such responsive user actions are tracked according to ads already provided based on proximity to geolocations of interest. By prophetic example, Verizon receives initial indication that a user is near Newark airport causing additionally location tracking of whether the user physically approaches the hotel, car rental, tourism, or “restaurant open for breakfast” in the ad. *Id.*, ¶¶[0042], [0053]. Verizon discloses this additional tracking of user location to understand whether legitimate action has occurred, to retain information, including for relevance adjustments. *Id.*, ¶¶[0040], [0050]; DEC., ¶104. To the extent that the matching comparison pertains specifically to comparison of user profile data in item 28(d), opt-in and user-response-action information are each part of Verizon’s user settings/profile and otherwise are user-specific. *Id.*, ¶¶[0041], [0050]; DEC., ¶104.

8. *Element 28(f)*

Verizon discloses comparing the second rule as recited, in executing its rules for general location-based ads. *E.g.*, Verizon, ¶¶[0042], [0043]. While tracking the location of the mobile device, the module 206 is determining whether the user reaches “location 2.” Verizon, ¶¶[0036], [0042]. Verizon’s ad update concerning location 2 occurs by such location/proximity comparison between the user and the

second geolocation, for example, as a business or other place of interest. DEC., ¶105.

9. *Element 28(g)*

Verizon discloses delivering media content on fulfillment of the first and second rules as recited. *See, e.g.*, Verizon, ¶¶[0041], [0042] (“marketing content (“AD 2”) may be displayed at time 2 and location 2.”), [0043], [0053]. Of course, Verizon requires consent for ad tracking, and upon reaching the second geolocation, appropriate ads are provided when opted-in, fulfilling both rules. *Id.*, [0041], [0047]. Additionally, user action resulting in relevance weighting becoming activated above zero level fulfills user profile and location rules. *Id.*, ¶¶[0040], [0050]; DEC., ¶106.

B. *OBVIOUSNESS*

Although Verizon discloses each and every feature of claim 28 as discussed above and incorporated here, lack of express or elaborate discussion of certain terms is additionally addressed below as to obviousness.

To the extent that Verizon lacks express or elaborate discussion of “registering” its asset data as mentioned above concerning item 28(a), in the same technology area, Kerr teaches robust administrator controls and/or access in targeted ads. *E.g.*, Kerr, Abstract. Kerr teaches such administrative control/access to provide registration of asset data including geolocation of businesses via a user interface. *E.g.*, Kerr, ¶¶[0064]-[0068] (administration), [0080], [0084] (interface), [0087],

[0089], [0091]-[0092], [0096]-[0097], [0120] (relevance interface), [0121], [0125], [0128], [0133]-[0164], [0168]-[0172], [0177]-[0183] (access); FIGs. 4-9, 15, 19-25, 30-35. For example, Kerr discloses robust interfacing/administration via a content administration interface 110, configured for registering asset businesses by

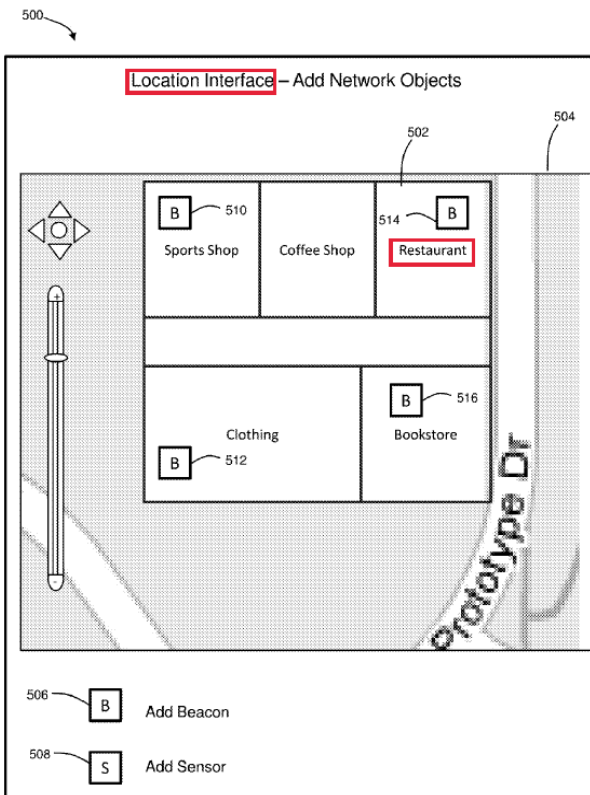


Figure 5

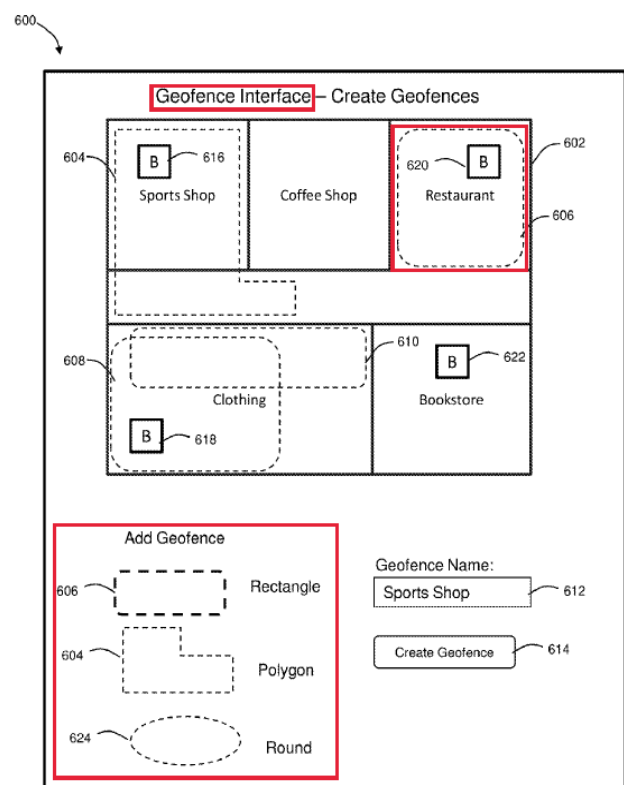


Figure 6

geolocation including geofencing (annotated FIGs., 5-6, below), and rules as recited. Kerr discloses associating geolocations with received content and content distribution conditions (FIGs. 3-10, 13-15, 35); DEC., ¶108.

Kerr's interfacing allows registration of the assets, and provides ease and control in human-machine interfacing. *See, e.g.,* Kerr, ¶[0096] (registering with association between geolocation and content); DEC., ¶¶107-109. POSITA would

have implemented such registration aspects of Kerr into Verizon to promote ease of implementing/adjusting requirements, ease of understanding distribution and location schemes, and/or for effectiveness in human-machine interfacing in support of targeted content. DEC., ¶109.

To the extent that Verizon lacks express or elaborate discussion of responsiveness in tracking above concerning Element 28(c), in a similar area of location-based advertising, Geer discloses activation of high resolution tracking (“HIRES”) for increased precision depending on a state of the user relative to the event/location of interest. *E.g.*, Geer, ¶¶[0057] (changing resolution based on state), [0074] (fan/user state), [0079] (affiliation); DEC., ¶¶110-111. Geer teaches that HIRES tracking provides better resolution, but can be turned off or switched to lower resolution to preserve energy when unneeded. *E.g.*, *id.*, ¶¶[0063]-[0065]; DEC. ¶¶110-111.

For example, Geer teaches that HIRES tracking can be implemented over lower resolution tracking, when the user (i.e., “fan”) is within proximity to the place of interest, and in consideration of the “state” of the fan, including whether they affiliate with a home team or have certain categorization. Geer, Abstract (affiliate, category), ¶¶[0057], [0075]-[0076], [0079] (choice of interest or affiliation). Geer provides examples of the users’ personalized state to include home/away team affiliation, fan type, and/or friends or relationships, all of which are personal to the

user as user profile data. *Id.*, ¶¶[0074] (home team), [0079] (interests). Accordingly Geer discloses prompting HIRES tracking when the user profile data, including affiliations, categories, or interests, match in comparison to content rules. DEC., ¶111. POSITA would have implemented the recited responsive tracking of user location into Verizon, as taught by Geer, to improve resolution and/or conserve energy as Geer discusses, and/or otherwise to reduce data loading and/or processing, and/or for their associated benefits to accurate, low noise, efficient communications in targeted ads. DEC., ¶¶41-43, 111.

C. *INDEPENDENT CLAIM 29*

The evidence and arguments regarding Verizon, and Verizon with Kerr as to claim 28 are incorporated here. In particular, much of claim 28 is identical to claim 29, even with limitation-by-limitation correspondence, except recitation as instructions of computer-readable medium of a method rather than directly as a method. This appears to have little or no effect on the application of the prior art to the claims. However, specific differences in the language of claim 29 are addressed herein, including the first rule as a time period and the second rule also considering the time period.

1. *Element 29(a)*

To the extent that Verizon lacks express or elaborate discussion of the registering feature, Kerr further discloses registering as administrative control as

discussed above concerning claim 28, incorporated here, and would have been implemented in Verizon for the same reasons.

2. Elements 29(c)(i)-(ii)

Verizon discloses a first rule associated with a period of time as recited. For example, Verizon discloses rules of time periods such as hours of business operation (Verizon, ¶¶[0028] (11-7pm), [0065]), predetermined times or periods for content (*id.*, ¶[0073]), specific time intervals (¶0054), and more general time periods such as breakfast (¶¶[0042], [0058] (time of day), [0060] (content based on time, time of day, week, year) [0073]; DEC., ¶¶114-115. Verizon discloses the recited second rule concerning the time period expressly (*e.g.*, *id.*, ¶[0039] (“whether to distribute marketing content ... when/how long to display/distribute ... may take into account ... time of day, day of the week, etc.”), [0068], [0073]), and by example of time period specific location-based ads (*e.g.*, *id.*, ¶¶[0042], [0043]). DEC., ¶¶114-115.

3. Element 29(e)

Claim 29 recites a matching comparison but omits reference to “comparing” in element 29(e) when equated with element 28(d). Thus, it appears that application of Verizon, and Verizon in view of Geer, as to element 28(d), incorporated here, applies equally to element 29(e). Additionally, however, other matching comparisons in Verizon also discloses element 29(e) including by matching comparisons of time, location, subscription, and/or profile, among others, for

example, user proximity to a first geolocation as discussed above concerning claim 28. DEC., ¶116.

According Verizon anticipates claims 28 & 29. Additionally or alternatively, Verizon in view of Kerr and/or Geer render claims 28 & 29 obvious.

VII. GROUND 3: VERIZON ALONE - §103

As shown below, Verizon alone renders obvious claims 1-6 & 11-27. Verizon's system and method for delivering tailored content according to geolocation discloses all recited aspects. Yet, to the extent that Verizon does not expressly or elaborately disclose aspects such as content and tracking layers recited passively in claim 1, POSITA would have implemented these aspects for their benefits in practical implementation of Verizon's operations.

A. CLAIM 1

Verizon discloses all aspects of claim 1, but lacks express mention of content interaction and consumer tracking "layers". Without concession to the effect that these passively-recitations have regarding the scope of claim 1, to the extent that Verizon does not explain its operations using layers, a POSITA would have

implemented these features based on Verizon's suggestions and/or POSITA's skill and/or knowledge.² DEC., ¶¶119-120.

1. *Claim 1: Correspondence*

Claim 1 corresponds with claim 28 for many elements, including verbatim correspondence between elements 1(a):28(a), close correspondence between at least elements 1(b):28(b) and 1(c):28(c), and similar themes for other elements. All evidence and arguments concerning Verizon as to claim 28 are incorporated here, demonstrating unpatentability of claim 1, and identifying the location of all recited elements within the prior art. Specific differences in the language of claim 1 from claim 28 are discussed in additional detail below.

2. *Element 1(b)*

As discussed above concerning claim 28, and specifically element 28(b), incorporated here, Verizon discloses receiving media content to be associated with at least one registered asset, and claim 28 additionally mentions layers also suggested by Verizon. *See, e.g.*, Verizon, ¶¶[0028] (marketing content), [0038], [0042].

² Petitioner reserves all rights to challenge the scope of claim 1, and specifically, by addressing the recited layers in this Petition, does not concede to their effect, if any, on the scope and/or interpretation of claim 1.

Verizon discloses its media content configured as operative with a content interaction and consumer tracking layer as recited. Verizon discloses software modules comprising coding. Verizon, ¶¶[0017], [0036] (“modules that may include one or more servers, databases, subsystems and other components. As used herein, the term “module” may be understood to refer to non-transitory executable software, firmware, hardware, and/or various combinations thereof... Location/Proximity module 206 may comprise a WiFi, 3G, 4G, or Bluetooth ... to track the location of the mobile unit and/or nearby mobile devices.”).

A POSITA would have appreciated that such modules comprising logic, processors, software, and the like, such as those disclosed by Verizon, routinely include software layers. Dr. Goldberg explains that such software layers provide segmenting, organizing, sequencing, and/or indexing of various processing operations as outlined in Verizon. DEC., ¶¶122-123. Such distinction in layer can afford ease in development, debugging, implementation, and/or updating. DEC., ¶123.

Verizon discloses at least consumer location tracking and consumer interaction tracking as distinct operations, even when close in context. For example, Verizon discloses location/proximity tracking under traditional technologies such as 3G/4G or GPS. Verizon, ¶¶[0036], [0046]-[0047]. Verizon separately discloses consumer interaction with content as a part of its user profile/settings. *Id.*, ¶¶[0040],

[0050], [0053]. For example, if a user clicks on hyperlink within content, Verizon distinctly tracks the interaction and records related information for its relevance. *Id.*, ¶¶[0053] (acted upon), [0050]. POSITA would have appreciated Verizon's suggestion of separate operations for content interactions and for location tracking for implementation within layers based on their individuality. *Id.* Even where location services can implicate user activity, Verizon treats these activities differently at least by the effect on user profile/settings and weighting. *Id.*; DEC., ¶124. Verizon's processes for location tracking and considering content interaction as individual operations including unique functionalities that a POSITA would appreciate for implementation into differing layers of code by their functions as an interaction layer for detecting content interactions, and a tracking layer for tracking consumer location. *See, e.g.*, DEC., ¶125. Accordingly, POSITA would have found it obvious to have implemented Verizon's operations in different layers, as recited, and thus to receive media content configured with and enabling operations as recited, for the benefits of segmenting, organizing, sequencing, and/or indexing, affording ease in development, debugging, implementation, and/or updating to tailored content provisioning.

3. *Element 1(b)(i)*

Verizon discloses interacting with a content consumer, as recited, by its consideration of consumer interactions with content. *See, e.g.*, Verizon, ¶¶[0040],

[0047], [0050], [0053] (“acted upon”). For example, Verizon applies content interactions by considering whether users make purchases, link to websites, obtain information, or otherwise ‘act on’ provided content. *Id.*, ¶¶[0050], [0053]; DEC., ¶127; *supra*, §(VI)(A)(6). Such actions are recorded within user profile information, and used in determining future content. Verizon, ¶¶[0040], [0050]; DEC., ¶127.

4. *Element 1(b)(ii)*

Verizon discloses tracking the consumer of the media content, as recited. *See, e.g.*, Verizon, ¶¶[0036], [0040], [0042], [0043], [0046]-[0047], [0076]; DEC., ¶128; *supra*, VI(A)(7)(element 28(e)). Verizon applies such mobile device location to track the consumer, in conjunction with the media content at least by its content provisioning, and related updating. *E.g.*, Verizon, ¶¶[0042], [0043], [0053], [0076]; DEC., ¶128.

5. *Element 1(c), 1(c)(i)-(ii)*

Verizon discloses specifying rules at least by its criteria/requirements for tailored content. *See, e.g.*, Verizon, ¶¶[0028] (categorized/assigned criteria), [0040], [0041], [0049]; *supra*, §VI(A)(3)-(4)(elements 28(a)-(b)); DEC., ¶129. For example, Verizon discloses selecting ad content depending on elements of user profile data such as subscription/opt-in, age, gender, financials, etc., specific to the consumer. *E.g.*, Verizon, ¶¶[0040], [0041], [0049] (account user profiles/settings), [0050], [0053]. Verizon’s consideration of user profile data and/or information

when determining when/how to select and deliver content specifies the rule for selecting content as recited.

Verizon discloses a second rule for updating content as recited. For example, Verizon updates content based on the user moving from first to second geolocations. Verizon, ¶¶[0042], (displaying on “mobile unit 124” “AD 1” at “location 1,” “AD 2” at “location 2,” and “AD 3” at “location 3.”). Verizon also discloses minor modifications to content as a rule associated with a second geolocation. *Id.*, ¶[0043]. In each instance, Verizon specifies reaching a second geolocation (e.g, location 2) as another rule of content delivery. DEC., ¶130.

6. *Element 1(d), 1(d)(i)-(iii)*

Verizon discloses receiving an activation command for delivery triggering including at least one of spatial trigger (e.g., Verizon, ¶¶[0036], [0042]-[0044]), time-based trigger (e.g., *id.*, ¶¶[0028] (hours), [0042], [0043], [0054], [0060], [0065], [0073]), and event occurrence, such as by user activity or (¶¶[0047], [0042], [0043], [0050], [0053]), as recited. DEC., ¶¶131-132. Verizon discloses spatial triggers by location/proximity, e.g., where consumers are near businesses of interest (¶[0036] (radius of particular business)), and time-based triggers as hours of business operation (¶[0028]). Verizon provides examples of users at Newark Airport around 7:00 AM may receive advertisements relating to hotels, car rentals, tourism, nearby restaurants open for breakfast, etc. Verizon, ¶¶[0042], [0043]. Verizon

discloses event occurrence activation commands at least by news/weather/current events (¶¶[0028, [0073]), and user actions such as downloading or responding (¶¶[0047], [0053]).

7. Elements 1(e)-(f)

Verizon discloses comparing the first rule and element of profile data to determine delivery of content as recited. *See, e.g.,* Verizon, ¶¶[0040] (profile/settings “before distributing”), [0041], [0044] (preferences), and [0049]. For example, Verizon’s considers whether user profiles match requirements in determining whether content can be delivered. *Id.*, ¶¶[0040], [0041], [0044] (preferences), [0047] (user profile comparator), [0049] (agreed); DEC., ¶¶133-134. Verizon discloses delivering the media content to a device associated with the consumer when the first rule is met. *E.g.,* Verizon, ¶¶[0028], [0040] (weight), [0042], [0043], [0044] (male/female), [0047] (match, consent), [0048], [0049] (agreed), [0050] (relevance), [0056]; DEC., ¶¶133-134.

8. Element 1(g)

Verizon discloses tracking a consumer device location further to the delivery of the media content by ongoing tracking. *E.g.,* Verizon, ¶¶[0042] (tracking consumer and displaying AD 2 at location 2 and AD 3 at location 3.), [0043], [0047]. Verizon tracks location by known technologies, like GPS or 3G/4G, periodically acquiring location data of the mobile device representative of the user location.

Verizon updates the locations and relevant ads as new locations are tracked. *Id.*, ¶¶[0042], [0043]; DEC., ¶135.

9. *Elements 1(h)-(i)*

Verizon discloses comparing the second rule and the location regarding updates as recited. For example, Verizon compares the location and second rule to determine whether to update AD1 to AD2 when the second geolocation is tracked. Verizon, ¶¶[0036], [0042] (“AD 2 may be displayed at...location 2... Then, as the van heads to Manhattan around 12:00 PM, mobile unit 124 may display marketing content for a local Japanese restaurant ... or a local business merely seeking to advertise its name.”). Verizon also discloses such update as a minor modification of AD1. *Id.*, ¶[0043]; DEC., ¶¶136-137. Verizon discloses updating the media content at the device associated with the consumer when the second rule is met, for example, near Manhattan. Verizon, ¶¶[0042], [0043]; DEC., ¶¶136-137.

Accordingly, Verizon renders obvious all aspects as recited in combination within claim 1.

B. *CLAIM 2*

Verizon discloses its method to include registering asset data, in particular registering a mobile asset. *See, e.g.*, Verizon, ¶¶[0027], [0036] (mobile units, vehicles, mobile devices), [0044], [0054]. Location/Proximity module 206 can “track the location of mobile unit[s],” and “compare the location of mobile unit 124

to displays 114, such as billboards...to yield additional location or proximity data...”). Verizon discloses various location tracking technologies including GPS, and long range communications technologies such as CDMA and GSM including device registration at least at initial tracking/communication. *E.g., id.*, [0023], [0028]; DEC., ¶139; *see also, supra*, VI(A)(2)-(4).

C. CLAIMS 3 & 4

Verizon discloses tracking mobile assets as recited, such as mobile phones and vehicles. *E.g.,* Verizon, ¶¶[0027], [0036], [0076]. Verizon discloses updating a database with tracked, up-to-date location data of the mobile asset. Verizon, ¶¶[0032]-[0033] (databases/modules), [0036] (tracking), [0050]. Verizon discloses, for example, that any of the devices or modules, including the “Location/Proximity module 206” include databases connected to store data such as location data received from the mobile device 120. *Id.*, [0032]-[0033]; DEC., ¶¶140-141. Verizon discloses accessing and retrieving the up-to-date location data at least as routine within its operations, for example, GPS location services. Verizon, ¶¶[0027] (incorporating U.S. 8,391,886, Ex. 1010), [0036] (tracking location and determining whether to “distribute the marketing content” to the mobile device.), [0042] (displaying AD1, AD2, AD3 based on location determination); DEC., ¶¶140-141 (explaining databases including VLR database of U.S. 8,391,886 (Cellco), *e.g.*, Col. 5:50-52). To the extent that Verizon does not expressly or elaborately discuss

database storage/retrieval within its location-tracking communications, POSITA would have implemented location data updating and tracking with a database, as recited in claims 3 and 4, based on Verizon's suggestion for database storage (including via Cellco), to facilitate use of location data and/or for analysis of historical locations in providing tailored content. DEC., ¶¶140-141; *see also* Verizon, ¶[0050] (historical actions).

D. *CLAIM 5*

Verizon discloses tracking the mobile asset including communicating with location tracking technology associated with the mobile asset, at least by connection for communication with the mobile asset. *See, e.g.*, Verizon, ¶¶[0027] (e.g., GPS), [0036] (e.g., GPS); DEC., ¶142.

E. *CLAIM 6*

Verizon discloses triggering delivery on consumer proximity to an up-to-date location of a mobile asset as recited. *See, e.g.*, Verizon, ¶¶[0028], [0036] (proximity with mobile unit), [0058], FIGs. 2A-2B, 4. In consideration of Verizon's mobile units, when a consumer is within proximity thereto, a delivery trigger provides tailored content. *Id.*; DEC., ¶143.

F. *CLAIM 11*

Verizon discloses delivering a plurality of content types as recited. *See, e.g.*, Verizon, ¶¶[0038] (video, image, audio), [0042], [0049] ("types of marketing

content ... marketing content for coffee, clothes, 5-star restaurants, and theatrical productions, and only when the marketing content includes an incentive greater than 15% off. ... goods or services relating to children and also local real estate offers ... [h]ow the marketing content is present (format, transitions) may dependent on the location.”). Verizon discloses content types at least as form and subject, and tailored delivery rules based on the same, as recited. DEC., ¶144.

G. *CLAIM 12*

Verizon discloses tailoring its content type and/or delivery rule based on user profile data as recited. *See, e.g.,* Verizon, ¶¶[0040], [0041], [0049] (“decision module may take into account user profiles and/or user settings before distributing marketing content to various mobile devices 120 ... the user profile may also include the types of marketing content the user has agreed to receive or prefers to receive.”), [0050] (relevance), [0067]. DEC., ¶145.

H. *CLAIM 13*

Verizon discloses tailoring content type and/or delivery rules considering a characteristic of device type associated with the consumer. *See, e.g.,* Verizon, ¶¶[0016], [0017], [0025], [0036] (type), [0045] (“mobile unit 124 may be an individual consumer's vehicle... Implementing a display on individual consumer vehicles has the potential to maximize advertisement exposure), [0050], [0067]. For example, Verizon requires the device type of the consumer be capable of display or

otherwise communicating the ad. *Id.*, ¶¶[0025], [0038] (video, audio), [0042], [0078]; DEC., ¶146. Moreover, Verizon tailors content and rules concerning interactivity in the device which must be interactive to allow hyperlink click use. *E.g., id.*, ¶¶[0050], [0053]; DEC., ¶146.

I. CLAIMS 14 & 15

Verizon discloses tracking consumer actions via consumer tracking layer. *See*, Verizon ¶¶[0017], [0036], [0040], [0042], [0043], [0050], [0053]. As discussed above concerning claim 1 (*supra* §VII(A)), Verizon discloses or achieves tracking consumer locations and movement via tracking layer for software benefits based on its location tracking operations. *Id.*, ¶¶[0036], [0044]; DEC., ¶¶147-148. Verizon's tracking layer would have been implemented on devices associated with the consumer via the subscribed server and/or mobile unit in proximity with the consumer (Verizon, ¶[0028], [0038]), and of course, on personal devices at least in communication to provide indication of user actions to the server level (*id.*, ¶¶[0050], [0053]). DEC., ¶¶147-148. Moreover, Verizon also discloses consumer location tracking pertaining to responsiveness to ads in determining relevance. *Id.*, ¶¶[0040], [0050], [0053].

Verizon discloses such tracking based on at least location and/or telemetry data. *See, e.g.*, Verizon, ¶¶[0027], [0036] (3G/4G, GPS), [0045] ("Proximity may be dependent on multiple factors including... speed/direction of travel of the mobile

device, specifics of the mobile device user... rate of movement of mobile unit 124.”).

As Dr. Goldberg explains, Verizon’s location data is telemetry data in context of such electronic devices, and Verizon’s location technologies applies unique identifiers such as IMEI/MAC numbers. DEC., ¶149.

J. *CLAIM 16*

Verizon discloses compiling analytics of the action, in particular analytics or data regarding the action (and/or movement) of the consumer. *E.g.*, Verizon, ¶¶[0032], [0033], [0036], [0039], [0040] (weight), [0050], [0053], [0066] (reports). For example, Verizon discloses assessing speed/direction, proximity, and travel to businesses. Verizon, ¶¶[0038], [0045], [0053], [0058]. Each of such aspects comprises analytics as data interpretations from Verizon’s tracking technologies such as 3G/4G and GPS. DEC., ¶150. Verizon further discloses generating reports, constituting analytics including user travel to businesses. *Id.*, ¶¶[0039], [0040] (weight), [0053] (travel to business), [0066]; DEC., ¶150.

K. *CLAIM 17*

Verizon discloses engaging a transmission module that transmits content when the consumer is proximate to the first location. *E.g.*, Verizon, ¶¶[0027] (wireless connections), [0034] (input/output module), [0040] (distribution module, direct distribution), [0046]; DEC., ¶151. Verizon’s various embodiments disclose transmission modules conducting communications as recited, and also disclose such

proximity aspects by its examples of traveling between locations. *Id.*, ¶¶[0042], [0043]; DEC., ¶151.

L. *CLAIMS 18 & 19*

Verizon discloses determining that a spatial trigger occurs and proximity by location data as recited. *E.g.*, Verizon, ¶¶[0027], [0032], [0038], [0042], [0043], [0053]; *supra* §VII(I). Verizon achieves its consumer tracking layer in operative communication with a device associated with the consumer by its operation to determine relevant consumer location, for example, by 3G/4G or GPS technologies, implemented as the consumer tracking layer under POSITA's skill and/or knowledge. *E.g.*, *id.*, ¶¶[0027], [0036], [0038], [0053]; *supra* §VII(A)(element 1(b)); DEC., ¶152. Verizon's location data is received from the layer by its receiving location data from the device via the appropriate technology, and from the layer in determining the relevance of the location whether by proximity, speed/direction, or otherwise in applying the location data. *Id.* For example, the layer acquires location information, and execution by the processor for determining proximity or other aspects thereon includes receiving the location data by the processor for consideration and/or otherwise into local cache/volatile storage to support processor operations. DEC., ¶152. Verizon determines at least proximity based on consumer location data as recited. *See, e.g.*, Verizon, ¶¶[0032], [0036] (3G/4G, GPS, proximity to business), [0038], [0042], [0043]; DEC., ¶152.

M. CLAIM 20

Verizon discloses determining that a time-based trigger has occurred based on determining that a predefined time has been met. *E.g.*, Verizon, ¶¶[0028] (11-7pm), [0039], [0042], [0043], [0054], [0058], [0060], [0068], [0073] (predetermined times); DEC., ¶153.

N. CLAIM 21

Verizon discloses determining that a time-based trigger has occurred, as recited, including by operating hours (Verizon, ¶¶[0028] (11-7pm), [0065]), predetermined times or periods for content associated with geolocations (*id.*, ¶[0073]), specific time intervals (¶0054), and general time such as breakfast (¶¶[0042], [0058] (time of day), [0060] (content based on time, time of day) [0073]; DEC., ¶154. Verizon discloses such times concerning the time period expressly (*e.g.*, *id.*, ¶[0039] (“when/how long to display/distribute ... time of day”), [0068], [0073]), and by example of time specific location/proximity-based ads (*e.g.*, *id.*, ¶¶[0042], [0043]); DEC., ¶155. Verizon receives time designations as required time, and also as actual routine in location-based services. *Id.*, ¶¶[0014] (location and time data), [0028]; *see also*, Ex. 1009, (Cellco), Col. 15:25-34 (absolute times); DEC., ¶155.

O. *CLAIM 22*

Verizon discloses specifying interactivity criteria as recited. *E.g.*, Verizon, ¶¶[0040], [0041]-[0043], [0047], [0050], [0053]; DEC., ¶156. In addition to location requirements, Verizon discloses user interaction with content, downloading, and related historicals such as saving/sharing content, wishlist creation, purchases, hyperlink use, mapping, and/or traveling to related businesses, including relevance weighting impacts, as specifying interactivity criteria. *Id.*

P. *CLAIM 23*

Verizon discloses receiving an indication that the consumer is moving at a particular path, for example, with speed/direction, towards a particular business location and/or in a particular manner whether walking or driving. *E.g.*, Verizon, ¶¶[0036] (speed/direction), [0042], [0043], [0047] (walking down the street), [0053] (particular business). Verizon's discloses time period, such as during business hours, also applies when determining content delivery. *E.g.*, *id.*, ¶[0028], [0042]; DEC., ¶157.

Q. *CLAIM 24*

Verizon discloses specifying interactivity criteria including change in location, destination, and time period as recited, by its examples and with specific criteria. *See, e.g.*, Verizon, ¶¶[0042] ("Newark Airport around 7:00 AM ... Then, as the van heads to Manhattan around 12:00 PM, mobile unit 124 may display

marketing content for a local Japanese restaurant that has a current special on sushi, or a local business merely seeking to advertise its name.”), [0043], [0054] (predetermined times or intervals), [0073] (predetermined time). For instance, a required change in physical location (*i.e.* from Newark to Manhattan), a required destination (*i.e.* Manhattan), and a time period in which the consumer must travel to the destination (*i.e.* between 7:00 AM and 12:00PM). Moreover, Verizon specifies travel to a particular business, also considering business hours, and change in location. *Id.*, ¶[0053]; *see also id.*, ¶[0028]; DEC., ¶158.

R. CLAIM 25

Verizon discloses that tracking the location associated with the consumer comprises tracking the location relative to the interactivity criteria at least by its consideration of responsive travel to related businesses. *See, e.g.*, Verizon, ¶¶[0042], [0043], [0050], [0053]. For example, Verizon tracks consumer physical travel to a particular business as action interacting with ads. *Id.*, ¶[0053]; DEC., ¶159. Verizon uses these interactions to further target the relevance of its content. Verizon, ¶[0050].

S. CLAIM 26

Verizon achieves tracking telemetry data via the tracking layer. As discussed above, Verizon achieves the recited tracking layer by its individual location tracking and interactivity operations. *Supra*, §VII(A)(element 1(b)); DEC., ¶160. Also

discussed above, Verizon's location tracking applies telemetry data. *E.g.*, Verizon, ¶[0036]; *supra*, §VII(I) (claim 15); DEC., ¶160. Accordingly, POSITA would have appreciated Verizon as applying telemetry data as location in its consumer tracking layer. DEC., ¶160.

T. *CLAIM 27*

Verizon discloses updating the media content upon a fulfillment of the interactivity criteria. For example, Verizon discloses delivering media content on activity fulfillment including location/travel and content response. *See, e.g.*, Verizon, ¶¶[0041], [0042] (“marketing content (“AD 2”) may be displayed at time 2 and location 2.”), [0043], [0047] (updating by download), [0053]. Verizon requires consent for ad tracking, and upon reaching relevant locations, appropriate ads are provided when opting-in. *Id.*, [0041]-[0043], [0047]. Additionally, user action, including clicking and traveling to businesses, can change relevance weighting, resulting in updating ads. *Id.*, ¶¶[0040], [0042]-[0043], [0050] (continuously monitored); DEC., ¶161.

VIII. GROUND 4: VERIZON AND MUHIRE - §103

Verizon alone achieves all aspects of independent claim 1, as discussed above in Section VII(A) incorporated here, under POSITA's skill and/or knowledge in implementing layers, as discussed above. Additionally or alternatively, to the extent that Verizon lacks express or elaborate discussion of software layers in exact terms,

in similar area of technology, Muhire teaches use of separate layers. *E.g.*, Muhire, ¶¶[0050] (“The cloud computing server 120 includes a database 200 and a framework 300. The framework 300 may be embodied as a multi-tier architecture including four layers/components: a data layer 310, a Web presentation layer 320, a client applet (small application) layer 330 and a business layer 340. The client applet layer 330 may be a Java™ applet that may connect an Android™ application (or Apple™ application or any other similar operating system application) to the other components of the framework 300.”), [0052]-[0057]. POSITA would have appreciated Muhire to disclose different layers, such as business layer and Web presentation layer, to provide cohesive and integrated distinct portions of its architecture. POSITA would have found it obvious to have implemented Verizon’s operations for location tracking and consumer interaction as discussed above concerning claim 1, in different layers as taught by Muhire, and thus to receive media content configured and enable operations as recited, for the benefits of segmenting, organizing, sequencing, and/or indexing, affording ease in development, debugging, implementation, and/or updating to Verizon’s tailored content provisions. *See, e.g.*, DEC., ¶¶118, 162-165.

All arguments and evidence concerning claims 2-6 and 11-27 over Verizon alone are incorporated here. Accordingly, Verizon and Muhire render obvious claims 1-6 and 11-27.

IX. GROUND 5: VERIZON ALONE OR WITH MUHIRE, FURTHER IN VIEW OF KERR - §103

Verizon alone, or with Muhire, achieves all aspects of independent claim 1, as discussed above in Sections VII & VIII. Additionally or alternatively, to the extent that Verizon alone or with Muhire does not elaborately describe registering asset data, as discussed above, in the same area of technology, Kerr teaches robust administrator controls and/or access in targeted ads. *E.g.*, Kerr, Abstract. Kerr teaches such administrative control/access to provide registration of asset data including geolocation of businesses via a user interface. *E.g.*, Kerr, ¶¶[0064]-[0068] (administration), [0080], [0084] (interface), [0087], [0089], [0091]-[0092], [0096]-[0097], [0120] (relevance interface), [0121], [0125], [0128], [0133]-[0164], [0168]-[0172], [0177]-[0183] (access); FIGs. 4-9, 15, 19-25, 30-35. For example, Kerr discloses robust interfacing/administration via a content administration interface 110, configured for registering asset businesses by geolocation including geofencing (FIGs., 5-6), and rules as recited. Kerr discloses associating geolocations with received content and content distribution conditions (FIGs. 3-10, 13-15, 35); DEC., ¶¶118, 166-168.

Kerr's interfacing allows registration of the assets, and provides ease and control in human-machine interfacing. *See, e.g.*, Kerr, ¶[0096] (registering with association between geolocation and content); DEC., ¶¶166-168. POSITA would

have implemented such registration aspects of Kerr into Verizon alone or with Muhire, achieving registration as recited in claim 1, to promote ease of implementing/adjusting requirements, ease of understanding distribution and location schemes, and/or for effectiveness in human-machine interfacing in support of targeted content. DEC., ¶¶166-168.

The arguments and evidence concerning claims 2-6 and 11-27 over Verizon alone, and Verizon with Muhire are incorporated here. Accordingly, Verizon alone or with Muhire, further in view of Kerr render obvious claims 1-6 and 11-27.

**X. GROUND 6: VERIZON WITH KERR (OR ALSO MUHIRE),
FURTHER IN VIEW OF SEHN – §103**

Verizon with Kerr, and Verizon with Kerr and Muhire, discloses all aspects of claim 1 on which claims 7-10 depend, incorporated here, §§VII(A), VIII, IX. Verizon's registration of brand assets such as digitized business names, which otherwise render obvious specific names, logos, designs as unpatentability distinct under the printed matter doctrine. Verizon does not expressly disclose other aspects such as ascertaining the brand asset within multimedia content, however, in similar technical area, Kerr discloses business registration via administrative interface, and Sehn discloses recognition of digitized brand names and logos and requesting related information.

A. *CLAIMS 7-10*

Verizon discloses registering a brand asset such as a trade name as recited. *See, e.g.,* Verizon, ¶¶[0015] (digital), [0028] (“For example, marketing content associated with an ice cream shop may be categorized [by ad agencies 104, 106 or by ad server 107] according to the name ... website of the ice cream shop...”). Thus, Verizon discloses that the ad agencies 104, 106 and/or ad servers 107 are categorizing the content based on the received name of the business which constitutes a trade name and/or source-identifier associated with a brand by its identification of the business itself. Moreover, Kerr discloses registration of assets, such as businesses, via administrative interface, and further teaches identifying location by image recognition of a user’s photo to determine location as a unique identifier. Kerr, ¶¶[0136]-[0137], [0138] (location via user photograph). Such photo recognition achieves the ascertained object corresponding to the business asset as recited in claim 8.

Moreover, unique identification of a business’s location from a photograph in furtherance of providing tailored content achieves the features of claims 7-10 in light of the printed matter doctrine which affords no patentable weight to non-functional information type, including presence of brand asset within photos in view of other identifications within photos. *See Praxair Distribution, Inc. v. Mallinckrodt Hosp. Prods. IP Ltd.*, 890 F.3d 1024, 1031-32 (Fed. Cir. 2018). Accordingly, to the extent

not provided by Verizon as modified by Kerr, registration of particular marks and/or ascertaining particular brand asset within a photo carries no patentable weight in claims 7-10. POSITA would have found it obvious to incorporate Kerr's registration, and Shen's teaching for recognizing business names and logos and requesting information (e.g., Sehn, Col. 5:33-49 (recognizing brand in photo and responsively requesting content)), for the benefits in administrative level control and access (*see supra*, Section IX) in consideration of additional identifiers, and Kerr's photo recognition to determine location associated with businesses to enhance user experience, to incorporate user-provided information sources, and/or to diversify user circumstances in consideration for tailored content provision. DEC., ¶¶169-173. Accordingly, claims 7-10 are rendered obvious over the art combinations discussed above, further in view of Sehn.

XI. GROUND 7: ALCATEL AND KERR - §103

Alactel and Kerr render claims 1 & 11-27 obvious. As discussed in detail hereinafter, Alcatel discloses a system and method for delivering tailored content, such as ads, to a mobile device based on the direction of travel of the mobile device. In a similar area, Kerr discloses details to the notion of location-based tailoring of advertising content, including at the administrator level.

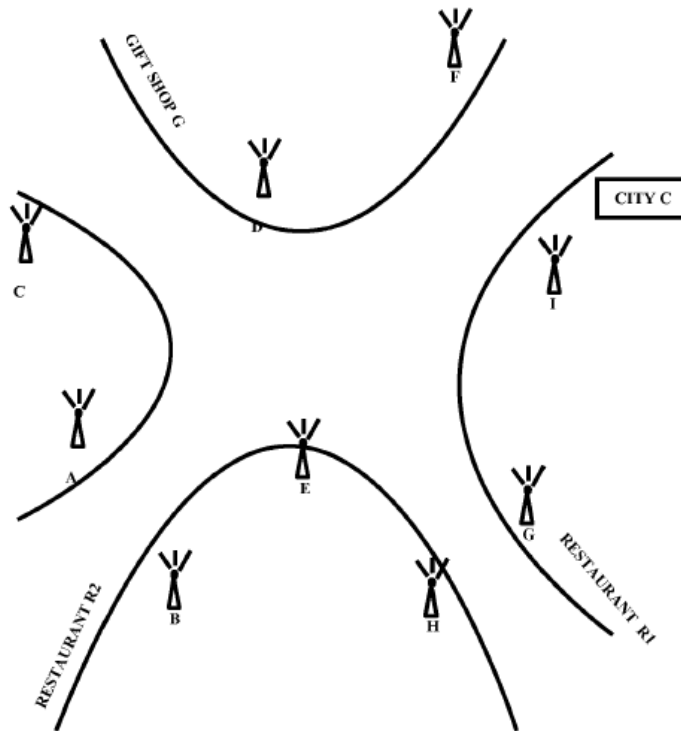
A. *CLAIM 1*

Alcatel discloses virtually every aspect of claim 1, including consideration of geolocation and location-based content provisions. To the extent that Alcatel does not elaborately discuss particular features such as profile data, a POSITA would have implemented these features based on Alcatel's suggestions, Kerr's disclosure, and/or POSITA's skill and/or knowledge. DEC., ¶175.

1. *Claim 1, Preamble: A method, comprising:*

2. *Element 1(a), 1(a)(i), 1(a)(i)(A)-(B)*

Alcatel discloses a method to include registering asset data, including first geolocation, as recited. *See, e.g.*, Alcatel, ¶¶[0002], [0004], [0007], [0015]-[0018], [0021], [0022]. For example, Alcatel discloses content delivery based on requirements from the advertiser/publishers. *Id.*, ¶¶[0017], [0019]-[0022]. Alcatel expressly bases these requirements on the geolocation of service base stations (A, B, C, etc.) in communication with consumers' mobile devices (phones) as shown in excerpted FIG. 3 below. *Id.*, ¶¶[0017] (base station near road of interest), [0022], FIG. 3; *see also* DEC., ¶176.



Alcatel – FIG 3.

Alcatel discloses its ads are provided by publishers in commercial arrangement with the service provider, such that publishers' specifications constitute registration at least when implemented by the service provider by geolocation. *Id.*, ¶[0017] (configures rules based on the location of the tracker base stations near the road); DEC., ¶177 ("POSITA would have understood the asset data to have been registered with the service provider to foster the disclosure in Alcatel."). Accordingly, Alcatel's foreknowledge of the base station geolocation is registration of the base stations and/or places of interest (e.g., roads, restaurants) and constitutes registering geolocations associated with physical assets as recited. Moreover, Dr. Goldberg explains that Alcatel's delivering of location-based content includes

registering asset geolocations by making these geolocations accessible where Alcatel's comparison between consumer and geolocation determines whether/which content to deliver. Alcatel, ¶¶[0022]; DEC., ¶¶177-178. This information is registered because it is known, possessed, or otherwise accessible to Alcatel's system to facilitate its operations. DEC., ¶178.

3. *Element 1(b), 1(b)(i)-(ii)*

Alcatel discloses receiving media content as recited, at least as advertisements from the publishers. *E.g.*, Alcatel, ¶¶[0002], [0016] (media content), [0017] (publishers/ads); DEC., ¶179. Alcatel discloses its content as operative with a consumer tracking layer at least by software-implementation of location-based content delivery. *Id.*, ¶¶[0006], [0017], [0019], [0020], [0022]; DEC., ¶179. Alcatel further discloses consumer interaction at least by enabling/disabling subscription service. Alcatel, ¶¶[0014], [0022]. But to the extent that Alcatel lacks express or elaborate discussion of consumer interaction as interaction with content specifically, in the same technology area, Kerr discloses tailored content delivery with location tracking (¶¶[0066]-[0067], [0071], [0074]) including user interaction to like/dislike and create content. *E.g.*, Kerr, ¶¶[0121], [0122], [0163] (user-created content), [0166]; FIGs. 32-33; DEC., ¶180. POSITA would have found it obvious to incorporate Kerr's user content interaction features into Alcatel to provide user-

subjective information/feedback for improving the accuracy, reducing noise, and enhancing efficiency in tailored communications. DEC., ¶180.

POSITA would have appreciated each of Alcatel and Kerr's disclosure of software implementation of their functionalities. DEC., ¶181; *e.g.*, Alcatel, ¶¶ [0007], [0019] ("processing logic is adapted for deciding the direction of mobility of every mobile device based on the locations ... determining content to be sent to the mobile device."); *e.g.*, Kerr, ¶¶ [0064], [0070], [0077], [0173], [0174], FIG., 1A. Each of Alcatel and Kerr disclose software-implemented logic to evaluate, determine, and calculate for its operations. DEC., ¶181. Moreover, POSITA would have appreciated that logic software, as disclosed by Alcatel's subscription/enabling and location tracking and Kerr's likes/creation and location tracking, routinely include distinct software layers. Dr. Goldberg explains that such software layers provide segmenting, organizing, sequencing, and/or indexing of various processing operations as outlined in Alcatel. DEC., ¶¶ 182-183. Distinction in layers can afford ease in development, debugging, implementation, and/or updating. DEC., ¶184.

Each of Alcatel and Kerr indicate individual operations for considering content interactions and tracking consumer location that are implemented with layers based on their individual primary operations. *Id.* For example, such processes as location tracking and considering consumer subscriptions are individual operations including unique functionalities that a POSITA would understand as implemented

into differing layers of code by their functions as an interaction layer for detecting user interactions, and a tracking layer for tracking user location. *See, e.g.*, DEC., ¶183. Accordingly, POSITA would have found it obvious to have implemented Alcatel's operations (as modified with Kerr's content interaction for stated benefits above) in different layers, as recited, and thus to receive media content configured and enable operations as recited, for the benefits of segmenting, organizing, sequencing, and/or indexing, affording ease in development, debugging, implementation, and/or updating to tailored content provisions.

4. *Element 1(c)*

Alcatel discloses specifying rules for selecting content for delivery at least by its rules processor. DEC., ¶185; *e.g.*, Alcatel, ¶[0017] (“rules processor 204 contains a set of rules for delivery of content. These rules are defined by the mobile service provider based on the content publisher's requirement. The content publishers can specify their requirements for content and send it along with the content to the mobile service provider network 103.”). Alcatel discusses publishers providing content and requirements, and service providers specifying rules based on the publisher specifications. *Id.*; DEC., ¶185.

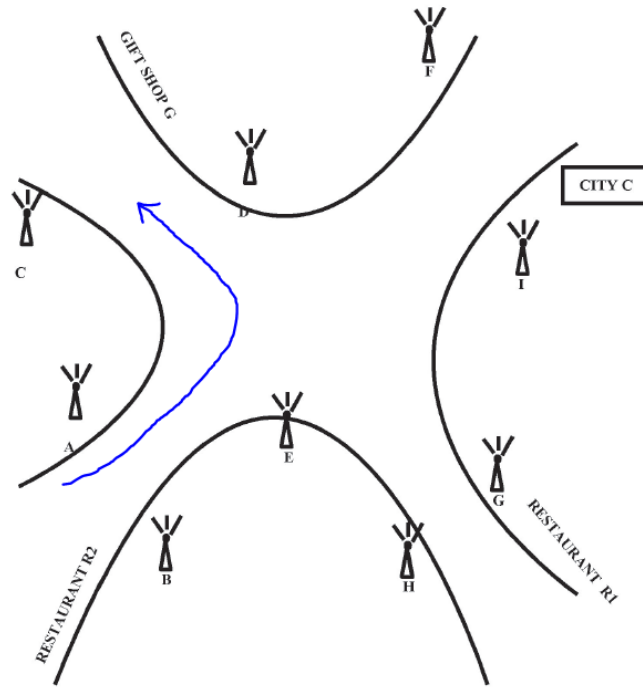
5. *1(c)(i)*

Alcatel discloses a content delivery rule as recited, by consumer subscription/enablement. *See, e.g.*, Alcatel, ¶¶[0015], [0022]. Alcatel considers

profile data for subscription/enable status when determining when/how to deliver content specifies a rule, subjective to each consumer, for delivering content. *Id.*, ¶[0022]; DEC., ¶¶186-187. Additionally or alternatively, to the extent that Alcatel does not expressly or elaborately discuss such items as profile data, Kerr discloses specifying a content delivery rule for profile data as recited. Kerr, ¶¶[0181] (e.g., age, gender), [0182] (select only content items: gender female). POSITA would have found it obvious to incorporate such rule concerning profile data, as taught by Kerr, to provide user-specific tailoring of content for improvement in accuracy, reducing noise, and/or enhancing efficiency for communications.

6. *I(c)(ii)*

Alcatel discloses specifying a rule updating for content based on an associated second geolocation as recited, by its ongoing location-based services. *See, e.g.*, Alcatel, ¶¶[0018], [0020]-[0022]. For example, receiving other initial content from initial journeys, a consumer heading to the second geolocation associated with station C, from stations A, D, as shown annotated FIG. 3 below, results in updating of content for the gift shop. *Id.*, ¶[0020]; DEC., ¶188.



Alcatel – Annotated FIG. 3

Alcatel's updated content rule is associated with the second geolocation according to proximity and by the content itself. *Id.*

7. *Element 1(d), 1(d)(i)-(iii)*

Alcatel discloses that delivery is triggered by a received activation command that includes determining that a spatial trigger, time-based trigger, and/or event has occurred as recited. *E.g.*, Alcatel, ¶¶[0017], [0020]-[0022]; DEC., ¶190. For example, Alcatel receives location information from the mobile device traveling along, and determines relevant spatial proximity and time determinations such as nearby a closed road 6AM-3PM (Alcatel, ¶[0017]), and under proximity to the stations within their times for gift shop G, restaurants R1, and Christmas event in

City C (*id.*, ¶[0020]). Moreover, at least Alcatel's Christmas event beginning constitutes an event occurrence. Alcatel, ¶[0020].

8. *Element 1(e)*

Alcatel discloses comparing the first rule and the profile data element as recited, at least by checking subscription status of consumer. Alcatel, ¶¶[0015], [0022] (check if user subscribed). Moreover, under modification with Kerr to consider additional profile data, Kerr teaches such comparison as recited for specific delivery, and also for relevance values, to apply user-specific considerations in tailoring content for the benefits mentioned above. *Supra*, §XI(A)(element 1(c)); Kerr, ¶¶[0181] (*e.g.*, age, gender), [0182] (select only content items: gender female), [0183] (relevance weighting); FIGs. 32-33; DEC., ¶191 (direct and relevance weighting each provides comparison).

9. *Element 1(f)*

Alcatel discloses delivering the media content when the first rule is met as recited. *See* Alcatel, ¶¶[0004], [0020], [0021], [0022] (check whether user has subscribed, and delivers appropriate content). Moreover, Kerr discloses such delivery as recited, for example, by direct decision and by relevance weighting for the same user-specific benefits mentioned above. Kerr, ¶¶[0181] (*e.g.*, age, gender), [0182] (select only content items: gender female), [0183] (relevance weighting);

FIGs. 32-33; DEC., ¶192 (direct and relevance weighting each provides comparison).

10. *Element 1(g)*

Alcatel discloses tracking a location associated with the consumer further to the delivery of the media content. *E.g.*, Alcatel, ¶¶[0017], [0020]-[0022]. Alcatel discloses continuing tracking of location after delivery of content, for example, by examples (¶[0020]), and also by tracking between locations generally (¶[0018]). *See* Alcatel, ¶[0002] (current); DEC., ¶193.

11. *Element 1(h)*

Alcatel discloses comparing and updating the media content as recited, by its overall location-based services. *E.g.*, Alcatel, ¶¶[0017], [0020]-[0022]. POSITA would have appreciated that Alcatel's location tracking and comparison with the second rule continues on and that any of its non-limiting examples, apply continuously, and even simultaneously where applicable, according user travel. *Id.*, *see also* Alcatel, ¶[0002] (current); DEC., ¶194.

12. *Element 1(i)*

Alcatel discloses updating content when the second rule is met at least by its overall location-based services. *E.g.*, Alcatel, ¶¶[0020]-[0022]. As discussed above, Alcatel's location-tailored content service continues amid the user's travel, and updates according to that travel. For example, having delivered initial content from

a given station X as the second geolocation in a first direction, further travel triggering delivery of content near station X would update accordingly, including under changed circumstances such as current news, weather, promotions etc. Alcatel, ¶¶[0002], [0022]; DEC., ¶195. Additionally, Alcatel would likewise update for wholly new ads, for example, if direction of travel regarding station X dictated accordingly. Alcatel, ¶[0022] (simultaneous operations); *see also* Kerr, ¶¶[0071], [0074]; DEC., ¶195.

Additionally or alternatively, to the extent that Alcatel does not expressly or elaborately describe “registering” asset data, for example, by affirmative act, additionally or alternatively, Kerr teaches such administrative control/access to provide registration of asset data including geolocation of businesses via a user interface. *E.g.*, Kerr, ¶¶[0064]-[0068] (administration), [0080], [0084] (interface), [0087], [0089], [0091]-[0092], [0096]-[0097], [0120] (relevance interface), [0121], [0125], [0128], [0133]-[0164], [0168]-[0172], [0177]-[0183] (access); FIGs. 4-9, 15, 19-25, 30-35. For example, Kerr discloses robust interfacing/administration via a content administration interface 110, configured for registering asset businesses by geolocation including geofencing (annotated FIGs., 5-6, *supra* XI(A)(6)), and rules as recited. POSITA would have implemented such registration aspects of Kerr into Alcatel to promote ease of implementing/adjusting requirements, ease of

understanding distribution and location schemes, and/or for effectiveness in human-machine interfacing in support of targeted content. DEC., ¶¶196-197.

B. *CLAIM 11*

Alcatel discloses delivering a plurality of content types as recited. *See, e.g.*, Alcatel, ¶¶[0002], [0017], [0020]. For example, Alcatel discloses content types such as news, weather, promotions, maps, including examples of road closures and advertisements. *Id.*, ¶¶[0002], [0016], [0020]. Alcatel also discloses configuring content for proper format, regardless of its type. *Id.*, ¶[0017] (format). Alcatel discloses delivery of the plural types of content by tailored delivery rules as recited, at least by its availability to deliver multiple content communications, for example, presuming a common location interest. *Id.*, ¶¶[0017], [0020], [0022]; DEC., ¶198.

C. *CLAIM 12*

Alcatel discloses tailoring content type and/or delivery rule as recited, at least by user subscription/enabling. *See, e.g.*, Alcatel, ¶¶[0015], [0022]. Alcatel tailors at least content type for subscribers, which also constitutes tailoring of a delivery rule by denying delivery as appropriate. *Id.*, ¶[0022]; DEC., ¶199. Under additional or alternative reliance on Kerr for profile data, *supra* §XI(A)(element 1(c)), Kerr tailors content type and/or delivery rule by profile data, as recited, for example according to age or gender, and POSITA would have found it obvious to apply such tailoring in Alcatel as modified by Kerr for additional subjective-user consideration

in targeting content for accuracy, reduced noise, and/or efficiency in communications. DEC., ¶199.

D. *CLAIM 13*

Alcatel discloses tailoring content type by device characteristic as recited, by its configuring content “in a format which can be sent to the mobile device,” (Alcatel, ¶[0017]) and delivery rule by device characteristic at least as whether the device is associated with a subscribed/enabled user (*id.*, ¶¶[0014], [0022]). For example, out-of-format content is tailored for mobile devices, and non-subscriber devices are prevented by tailored rule from content delivery. DEC., ¶200.

E. *CLAIMS 14 & 15*

Alcatel, as modified, discloses tracking an action and communicating with the consumer tracking layer of the consumer’s device as recited, by its location-based services communicated from personal mobile devices. *E.g.*, Alcatel, ¶¶[0017] (base stations, GPS), [0020]-[0022] (location via device); DEC., ¶201. The consumer action moving between stations is tracked according to software operations, implemented via consumer tracking layer on devices associated with consumer by subscription under modification as discussed concerning claim 1. *Supra*, XI(A)(3). Alcatel discloses such tracking based on at least location and/or telemetry data. Alcatel, ¶¶[0017]-[0018] (base stations, GPS). As Dr. Goldberg explains, Alcatel’s location data is understood as telemetry data in context of such electronic devices,

and Alcatel's location technologies would apply unique identifiers such as IMEI/MAC numbers. *See* Kerr, ¶[0073]; DEC., ¶201.

F. *CLAIM 16*

Alcatel discloses compiling analytics of the action, in particular analytics or data regarding the action of the consumer moving between base stations 105. *See, e.g.,* Alcatel, ¶¶[0006], [0018] (“mobility information of mobile devices 107 which have subscribed for content delivery based on direction of mobility service... path illustrating the location and direction of movement of a subscribed mobile device 107 user can be inferred drawn using the location of tracker base stations.”), [0022]. Alcatel's disclose analytics as mobility based on the action of consumer movement between stations. DEC., ¶202. Additionally or alternatively, to the extent that Alcatel lacks express or elaborate discussion concerning analytics, Kerr discloses relevance weight analytics, including location relevance. Kerr, ¶¶[0138] (location relevance), [0141] (relevance and analytics), FIGs 19, 25B. POSITA would have implemented Kerr's analytics of tracked action into Alcatel to facilitate evaluation of available data, subject-location consideration, and/or in implementing various factors for relevance in tailored content provision. DEC., ¶203.

G. *CLAIM 17*

Alcatel discloses engaging a transmission module that transmits content when the consumer is proximate to the first location. *E.g.,* Alcatel, ¶¶[0004] (“When a

mobile device ... comes into an area covered by base station A, content related to restaurant R1 is sent.”), [0021] (user travelling on the highway passes tracker base station E and content delivered about restaurant R1). Content is delivered by transmission modules such as tracker module 101, via interface 205, and also via transmission modules of the network 103 when in proximity of restaurant R1 and the associated base station. Alcatel’s location-based services continue concerning second and further geolocations accordingly. DEC., ¶204.

H. CLAIMS 18 & 19

Alcatel, as modified, discloses determining occurrence of a spatial trigger via the consumer tracking layer in operative communication device as recited, including proximity determination. *E.g.*, Alcatel, ¶¶[0017], [0020]. Alcatel discloses determining, based on the location data, that the recipient is in proximity to the first geolocation. *See, e.g.*, Alcatel, ¶¶[0004], [0018], [0021] (“mobile device travels on the highway and comes into an area covered by base station A.”). As modified to include the consumer tracking layer, Alcatel’s location data is received from layer in communication with the device by its receiving location data from the device into the layer of the system in operative communication with the phone device. *Id.*, ¶[0017] (stations, GPS), DEC., ¶205. Alcatel’s location data is received from the layer by its receiving location data from the device via the appropriate technology, and from the layer in determining the relevance of the location. *Id.* For example,

the layer acquires location information, and execution by the processor for determining proximity or other aspects thereon includes receiving the location data by the processor for consideration and/or otherwise into local cache/volatile storage to support processor operations. DEC., ¶205.

I. *CLAIM 20*

Alcatel discloses determining the time-based trigger based on predefined time, and accessing schedule data as recited. *E.g.*, Alcatel, ¶¶[0016] (showtimes), [0017] (6AM-3PM), [0020] (0800-2130); DEC., ¶206.

J. *CLAIM 21*

Alcatel discloses determining the time-based trigger based on receiving a designation of a time and proximity to the first and second geolocations as recited. *E.g.*, Alcatel, ¶¶[0016] (showtimes), [0017] (6AM-3PM, near), [0018] (each station registers; GPS), [0020] (0800-2130, route proximity); DEC., ¶207; Cellco, Col. 15:25-34 (absolute times).

K. *CLAIM 22*

Alcatel discloses interactivity criteria, as recited, as movement between stations and criteria for interaction to subscribe/enable service, but lacks express or elaborate discussion concerning interaction criteria with the media content once provided. *E.g.*, Alcatel, ¶¶[0017], [0020]-[0022]. However, Kerr discloses thumbs up/down and “clicks” response to content, and relevance weighting thereon. Kerr,

¶¶[0121]-[0127], [0128] (clicks). POSITA would have implemented such interaction criteria to provide subject-user feedback for improvements to accuracy, reduced noise, and/or efficiency in targeted communications. DEC., ¶208.

L. *CLAIM 23*

Alcatel discloses receiving an indication that the consumer is moving at a particular path, towards the second geolocation and within a designated period of time as recited. *E.g.*, Alcatel, ¶¶[0018] (path), [0020], FIG. 3; DEC., ¶209. Alcatel's paths between base stations, during applicable times, thus, discloses such features by indications of the user locations.

M. *CLAIMS 24-27*

Alcatel discloses specifying interactivity criteria including change in location, particular destination, and particular time period at least by its examples. Alcatel, ¶[0020], [0022]. Alcatel's tracking is relative to the interactivity criteria as the criteria is the path of travel itself, and includes location data understood as telemetry data in context of such electronic devices, and Alcatel's location technologies would apply unique identifiers such as IMEI/MAC numbers. DEC., ¶208. Alcatel as modified to include layers would naturally apply such specifics in its consumer tracking layer. *Id.* Alcatel updates media content upon fulfilling its routes as interactivity criteria as its ongoing process continues. Alcatel, ¶[0020].

**XII. GROUND 8: ALCATEL AND KERR, FURTHER IN VIEW OF
MUHIRE - §103**

A. CLAIMS 1 & 11-27

Alcatel as modified with Kerr achieves all aspects of independent claim 1, as discussed above in Section XI, under POSITA's skill and/or knowledge in implementing layers. Additionally or alternatively, to the extent that Alcatel/Kerr lack express or elaborate discussion of software layers in exact terms, in similar area of technology, Muhire teaches use of separate layers. *E.g.*, Muhire, ¶¶[0050] ("The cloud computing server 120 includes a database 200 and a framework 300. The framework 300 may be embodied as a multi-tier architecture including four layers/components: a data layer 310, a Web presentation layer 320, a client applet (small application) layer 330 and a business layer 340. The client applet layer 330 may be a Java™ applet that may connect an Android™ application (or Apple™ application or any other similar operating system application) to the other components of the framework 300."), [0052]-[0057]. POSITA would have appreciated Muhire to disclose different layers, such as business layer and Web presentation layer, to provide cohesive and integrated distinct portions of its architecture. POSITA would have found it obvious to have implemented Alcatel's operations, as modified by Kerr, for location tracking and consumer interaction as discussed above concerning claim 1, in different layers as taught by Muhire, and

thus to receive media content configured and enable operations as recited, for the benefits of segmenting, organizing, sequencing, and/or indexing, affording ease in development, debugging, implementation, and/or updating to Verizon's tailored content provisions. *See, e.g.*, DEC., ¶¶210-213.

The arguments and evidence concerning claims 1 and 11-27 over Alcatel and Kerr are incorporated here. Accordingly, Alcatel and Kerr, further in view of Muhire render obvious claims 1 and 11-27.

XIII. GROUNDS 9 & 10: ALCATEL & KERR / ALCATEL, KERR, & MUHIRE, EACH FURTHER IN VIEW OF VERIZON - §103

A. CLAIMS 1-6 & 22-27

Alcatel as modified with Kerr achieves all aspects of independent claim 1, as discussed above in Section XI, under POSITA's skill and/or knowledge in implementing layers, as discussed above, and alternatively with Muhire in Section XII. Alcatel lacks express or elaborate discussion of a mobile asset as recited in claim 2 from which claim 3-6 depend. Alcatel as modified with Kerr, discloses the interaction criteria of claim 22 as content interaction, but lacks express or elaborate discussion of content interaction as travel as in claim 24. However, Verizon discloses mobile assets (e.g., Verizon, ¶[0028] (mobile units)) and user physically approaching businesses as content interaction (e.g., *id.*, ¶[0053]) which POSITA would have incorporated to allow repositioning of Alcatel's stations for flexibility

and/or adaptability to transient conditions like shows/events, and to improve accuracy, reduce noise, and enhance efficiency in communications by user-subjective feedback, respectively. *Supra*, §VII(A); DEC., ¶¶214-216.

Accordingly, arguments and evidence concerning Verizon's disclosures as to each of claims 1-6 and 22-27 are incorporated here concerning those claims, and to modify the combinations of Alcatel with Kerr, and Alcatel with Kerr and Muhire to render obvious claims 2-6 and 22-27 for those respective reasons. DEC., ¶¶214-216.

XIV. GROUND 11: ALCATEL, KERR, & VERIZON / ALCATEL, KERR, VERIZON, & MUHIRE, EACH FURTHER IN VIEW OF SEHN - §103

A. CLAIMS 7-10

Alcatel as modified with Kerr achieves all aspects of independent claim 1, as discussed above in Section XIII, under POSITA's skill and/or knowledge in implementing layers, and alternatively with Muhire. Alcatel as modified with Kerr registers brand assets such as digitized business names (Kerr, ¶¶[0097] ("Sports Shop"), FIGs. 2 (Penguin Paddock), 8, 31-32, 33 (Nevada Bar)), which otherwise render obvious specific names, logos, designs as unpatentability distinct under the printed matter doctrine. *See Praxair Distribution, Inc. v. Mallinckrodt Hosp. Prods. IP Ltd.*, 890 F.3d 1024, 1031-32 (Fed. Cir. 2018). Alcatel as modified does not expressly disclose other aspects such as ascertaining the brand asset within multimedia content, however, Kerr discloses business registration via administrative

interface including use of identifying location by image recognition of a user's photo to determine location as a unique identifier corresponding to the business asset as recited in claim 8. Kerr, ¶¶[0136]-[0137], [0138] (location via user photograph). Sehn discloses recognition of brands including digitized names and logos in images to request information. *E.g.*, Sehn, Cols. 5:33-49. POSITA would have found it obvious to incorporate Kerr's registration, and Sehn's teaching for recognizing brand names and logos, for the benefits in administrative level control and access (*see supra*, §XI(A)) in consideration of additional identifiers, and Kerr's photo recognition to determine location associated with business to enhance subject user experience, into Alcatel as modified, to incorporate user-provided information sources, and/or to diversify user circumstances in consideration for tailored content provision. DEC., ¶¶217-220. Accordingly, claims 7-10 are rendered obvious over the art combination Alcatel, Kerr, Verizon, and also Alcatel, Kerr, Muhire, and Verizon discussed above in Section XIII, each further in view of Sehn.

XV. GROUND 12: ALCATEL ANTICIPATES CLAIMS 28 AND 29 - §102

A. INDEPENDENT CLAIM 28

Alcatel teaches each and every aspect of claim 28, including by its location-based content provisions. DEC., ¶221. Evidence and arguments concerning Alcatel as to claim 1 are incorporated here.

1. *Claim 28, Preamble: A method, comprising:*

2. *Element 28(a), 28(a)(i)(A)-(B)*

Alcatel discloses a method to include registering asset data, including first geolocation, as recited. *See, e.g.*, Alcatel, ¶¶[0002], [0004], [0007], [0015]-[0018], [0021], [0022]. For example, Alcatel discloses content delivery based on requirements from the advertiser/publishers (*id.*, ¶¶[0017], [0019]-[0022]), and expressly bases such requirements on the geolocation of base stations in communication with consumers' mobile devices (phones). *Id.*, [0017] (base station near road of interest), [0022], FIG. 3. Alcatel's base stations themselves are physical assets and concern relevant geolocations of interest, and other physical assets, like restaurants R1, R2, (*id.*, ¶¶[0015], [0016], [0021], FIG. 3), and Alcatel also discloses that mobile devices are registered at each base station 105, and registered by subscribing to the service. Alcatel, ¶¶[0015], [0018]. DEC., ¶222.

3. *Element 28(b)*

Alcatel discloses receiving media content as recited, at least from publishers. *E.g.*, Alcatel, ¶¶[0002], [0016], [0017], [0020]-[0022]; DEC., ¶223. Of course, subscriber reception of media would follow with reception of media into storage.

4. *Element 28(c), 28(c)(i)-(ii)*

Alcatel discloses specifying rules for selecting content for delivery at least by its rules processor. DEC., ¶224; *e.g.*, Alcatel, ¶[0017] ("rules processor 204 contains a set of rules for delivery of content. These rules are defined by the mobile service

provider based on the content publisher's requirement. The content publishers can specify their requirements for content and send it along with the content to the mobile service provider network 103.”). Alcatel discusses publishers providing content and requirements, and service providers specifying rules based on the publisher specifications. *Id.*; DEC., ¶224.

Alcatel discloses a content delivery rule as recited, by consumer subscription/enablement, and considers subscription/enabled status when determining when/how to deliver content. Alcatel, ¶¶[0015], [0022]; DEC., ¶225. Alcatel discloses a second delivery rule associated with a second geolocation as recited by its ongoing location-based services. *E.g.*, Alcatel, ¶¶[0018], [0020]-[0022]. For example, a consumer heading to the second geolocation associated with station C, from stations A, D, as shown annotated FIG. 3 above, results in delivery of content for the gift shop. *Id.*, ¶[0020]; *supra*, XI(A)(2); DEC., ¶225.

5. *Element 28(d)*

Alcatel discloses receiving indication of proximity and comparing as recited. *E.g.*, Alcatel, ¶¶[0015], [0017], [0020]-[0022]; DEC., ¶226. For example, Alcatel receives location information from the mobile device traveling along, and determines proximity to a first geolocation such as near a closed road 6AM-3PM. Alcatel, ¶[0017]. Alcatel discloses that indication of proximity to base stations occurs at each station. *Id.*, ¶¶[0018] (each station registers; GPS), [0020]; DEC.,

¶226. Alcatel also discloses comparing the profile data as subscription/enablement, Alcatel, ¶[0022] (checks); DEC., ¶226.

6. *Element 28(e)-(g)*

Alcatel discloses tracking a location associated with the recipient in response to a matching comparison at least by noting the same. Alcatel, ¶¶[0015], [0022]. Alcatel discloses checking whether subscription/enabled tracking exists for each user, and that for non-subscribers/disabled, “location information of the mobile device 107 is not noted.” *Id.*, ¶[0022]. With matching comparison of subscription/enabled, Alcatel tracks user location by noting the same and processing content delivery. *Id.*; DEC., ¶227. Alcatel continues to determine content according to the location received, and when comparison reveals proximity to the second geolocation corresponding to a route of interest as fulfilling the second rule, e.g., A, D, C base stations finishing with C (Alcatel, ¶[0020]), Alcatel delivers content as recited. DEC., ¶228.

B. *INDEPENDENT CLAIM 29*

The evidence and arguments regarding Alcatel as to claim 28 are incorporated here. In particular, much of claim 28 is identical to claim 29, even with limitation-by-limitation correspondence, except recitation as instructions of computer-readable medium of a method rather than directly as a method, which appears to have little or no effect on the application of the prior art to the claims. However, specific

differences in the language of claim 29 are addressed herein, including the first rule as a time period and the second rule also considering the time period, each of which Alcatel discloses.

1. *Elements 29(c)(i) & (ii)*

Alcatel discloses a first rule associated with a period of time as recited. For example, Alcatel discloses specific time periods 6AM-3PM for road closures, 900-1800, 800-2130, and 00-2359 hrs for various store, restaurant, and event examples. Alcatel, ¶¶[0017], [0020]; DEC., ¶230. Alcatel likewise discloses its proximity rule applied at this time period as a second rule, where relevant travel to trigger the particular course to the gift shop, restaurant, or Christmas event, requires reaching the final base station as the second geolocation within the relevant hours. *Id.*, ¶¶[0020], DEC., ¶230.

2. *Elements 29(e)*

Claim 29 recites a matching comparison but omits reference to “comparing” in element 29(e) equated to 28(d). Thus, it appears that application of Alcatel as to element 28(d), incorporated here, applies equally to element 29(e). Additionally, however, other matching comparisons in Alcatel also discloses element 29(e) including by matching comparisons of time, location/movement, and/or subscription, among others, for example, user taking the path A, D, C. Alcatel, ¶[0020]; DEC., ¶231.

**XVI. GROUND 13: ALCATEL IN VIEW OF KERR AND/OR GEER -
CLAIMS 28 AND 29 - §103**

Although Alcatel discloses each and every feature of claims 28 and 29 as discussed above and incorporated here, lack of express or elaborate discussion of certain terms is additionally addressed below as to obviousness.

To the extent that Alcatel lacks express or elaborate discussion of “registering” its asset data under the discussions above concerning items 28(a) or 29(a), in the same area of technology, Kerr teaches robust administrator controls and/or access in targeted ads. *E.g.*, Kerr, Abstract. Kerr teaches such administrative control/access to provide registration of asset data including geolocation of businesses via a user interface. *E.g.*, Kerr, ¶¶[0064]-[0068] (administration), [0080], [0084] (interface), [0087], [0089], [0091]-[0092], [0096]-[0097], [0120] (relevance interface), [0121], [0125], [0128], [0133]-[0164], [0168]-[0172], [0177]-[0183] (access); FIGs. 4-9, 15, 19-25, 30-35. For example, Kerr discloses robust interfacing/administration via a content administration interface 110, configured for registering asset businesses by geolocation including geofencing (annotated FIGs.,

5-6, below). Kerr discloses associating geolocations with received content and content distribution conditions (FIGs. 3-10, 13-15, 35); DEC, ¶1036.

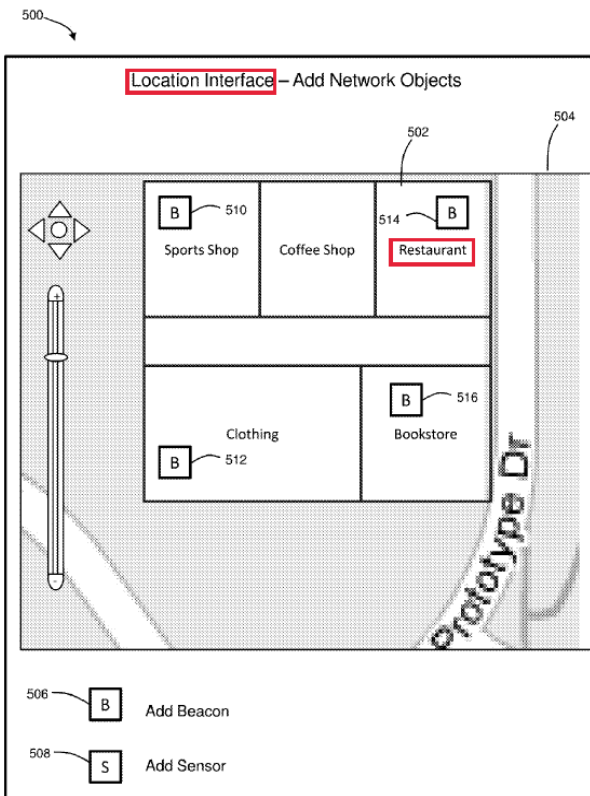


Figure 5

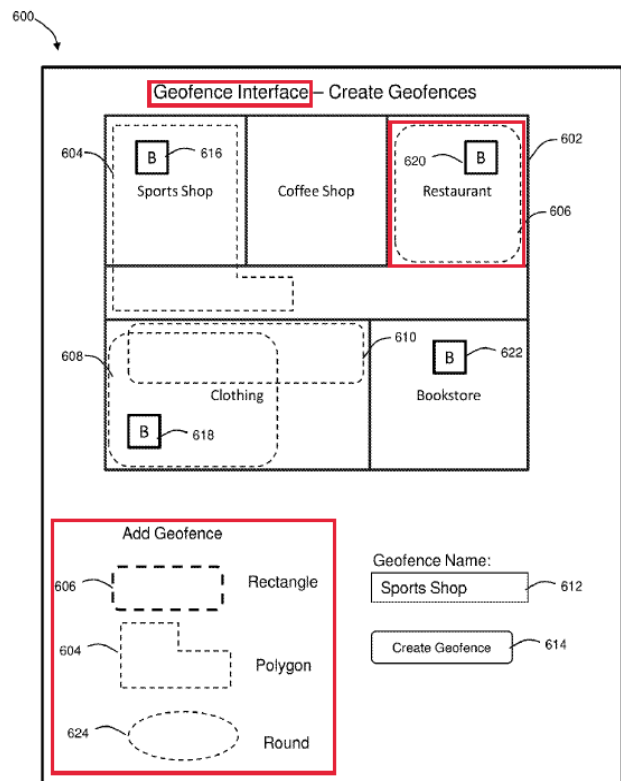


Figure 6

Kerr's interfacing registers the assets, and provides ease and control in human-machine interfacing. *See, e.g.,* Kerr, ¶[0096] (registering with association between geolocation and content); DEC., ¶234. POSITA would have implemented such registration aspects of Kerr into Alcatel to promote ease of implementing/adjusting requirements, ease of understanding distribution and location schemes, and/or for effectiveness in human-machine interfacing in support of targeted content. *Id.*

To the extent that Alcatel lacks express or elaborate discussion of responsiveness in tracking under the discussions above concerning items 28(c) or 29(c), in a similar area of location-based advertising, Geer discloses activation of high resolution tracking (“HIRES”) for increased precision depending on a state of the user relative to the event/location of interest. *E.g.*, Geer, ¶¶[0057] (changing resolution based on state), [0074] (fan/user state), [0079] (affiliation); DEC., ¶235. Geer teaches that HIRES tracking provides better resolution, but can be turned off or switched to lower resolution to preserve energy when unneeded. *E.g.*, *id.*, ¶¶[0063]-[0065]; DEC., ¶235.

For example, Geer teaches that HIRES tracking can be implemented over lower resolution tracking, when the user (i.e., “fan”) is within proximity to the place of interest, and in consideration of the “state” of the fan, including whether they affiliate with a home team or have certain categorization. Geer, Abstract (affiliate, category), ¶¶[0057], [0075]-[0076], [0079] (choice of interest or affiliation). Geer provides examples of the users’ personalized state to include home/away team affiliation, fan type, and/or friends or relationships, all of which are personal to the user as user profile data. *Id.*, ¶[0074] (home team), [0079] (interests). Thus, Geer discloses prompting HIRES tracking when the user profile data, including affiliations, categories, or interests, match in comparison to content rules. DEC., ¶236. POSITA would have implemented such responsive tracking of user location

as recited in Verizon, as Geer teaches, to improve resolution and/or conserve energy, as Geer teaches, and/or otherwise to reduce data loading and/or processing, and/or for their associated benefits to accurate, low noise, efficient communications in targeted ads. DEC., ¶237.

Accordingly, additional or alternatively, claims 28 and 29 are obvious over Alcatel with Kerr and/or Geer.

XVII.MANDATORY NOTICES

A. Real Party-in-Interest (37 C.F.R. § 42.8(b)(1))

Petitioner, Foursquare Labs, Inc. is the real party-in-interest.

B. Related Matters (37 C.F.R. § 42.8(b)(2))

On May 9, 2022, Patent Owner served its lawsuit on Foursquare in the U.S. District Court of Delaware asserting infringement of the ‘620 Patent. That case is captioned, *BoardActive Corporation v. Foursquare Labs, Inc.*, Case No. 1:22-cv-00597-UNA.

C. Counsel and Service Information (37 C.F.R. § 42.8(b)(3) and (4))

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Petitioner also consents to service by electronic mail at michael.carrillo@btlaw.com and steven.shipe@btlaw.com. Please charge the fee of 37 C.F.R. § 42.15(a), and any additional required fees, to Deposit Account No. 02-1010.

XVIII. CONCLUSION

For at least the reasons discussed above, reasonable likelihood is shown that claims 1-29 are unpatentable.

Date: May 9, 2023

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. § 42.24(d)

The undersigned certifies, pursuant to 37 C.F.R. §42.24(d), that the word count for the foregoing PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 10,621,620 totals 12,986 and within the 14,000 words allowed under 37 C.F.R. §42.24(a)(1)(i).

Date: May 9, 2023

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,621,620 and accompanying exhibits, were served on May 9, 2023, by Priority Mail Express, or equivalent, directed to the attorney of record for the patent at the following address:

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