

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UBER TECHNOLOGIES, INC.
Petitioner

v.

ENOVSY LLC
Patent Owner.

Case No. IPR2024-00825
U.S. Patent No. 7,199,726

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 7,199,726**

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8.....	2
III. FEE AUTHORIZATION	3
IV. GROUNDS FOR STANDING.....	4
V. PRECISE RELIEF REQUESTED	4
VI. THE CHALLENGED PATENT	5
A. Geographic Boundary Claims	5
B. Proximity Alert Claims	7
VII. PROSECUTION HISTORY OF THE '726 PATENT.....	7
VIII. LEVEL OF ORDINARY SKILL IN THE ART.....	8
IX. PRIORITY DATE	8
X. CLAIM CONSTRUCTION	8
A. Proposed Constructions for Geographic Boundary Claims	9
1. “ii) means for a wireless consumer to specify and forward to the network, geographic boundary information describing a region within a coverage area of said network where a notification should be sent to one or more of said portable mobile remote units within said region” (Claim 8)	9
2. “iii) means to forward said notification to portable mobile remote units within said region” (Claim 8)	10
3. “iv) means to identify said notification (iii) at the portable mobile remote unit and means to verify whether the portable remote unit exists within said region (iii)” (Claim 8)	10
B. Proposed Constructions for Proximity Alert Claims	11
1. “(iv) means to request for the location information of portable mobile remote units that are in a geographic boundary that is prescribed within the coverage area of said network” (Claim 1).....	11

TABLE OF CONTENTS
(continued)

	Page
2. “(v) means to provide the location information of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within said prescribed geographic boundary requested by the network” (Claim 1)	11
3. “(vi) means to determine and report to the system that, another portable mobile remote unit has maintained relative proximity to the portable mobile remote over a period of time while in motion” (Claim 1)	12
4. “means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location information to the network.....	13
XI. BRIEF DESCRIPTION OF THE APPLIED PRIOR ART	14
A. Prior Art Applied to the Geographic Boundary Claims.....	14
1. Suarez (Ex-1013)	14
2. Mezhvinsky (Ex-1017)	16
3. Heedfeld (Ex-1018, Ex-1019).....	18
B. Prior Art Applied to the Proximity Alert Claims	20
1. Layson’757 (Ex-1007).....	20
2. Layson’213 (Ex-1008).....	21
3. Wang (Ex-1009).....	23
4. IllinoisLaw (Ex-1010).....	24
XII. DETAILED EXPLANATION OF THE UNPATENTABILITY GROUNDS	26
A. Geographic Boundary Claims	26
1. Ground 1: Claims 12 and 13 are rendered obvious over Suarez.....	26
a. Independent Claim 12.....	26
b. Dependent Claim 13	37
2. Ground 2: Claim 8 is rendered obvious over Suarez in	

TABLE OF CONTENTS

(continued)

	Page
view of Mezhvinsky	38
a. A POSITA would have been motivated to combine Suarez-Mezhvinsky with a reasonable expectation of success	38
b. Independent Claim 8.....	40
3. Ground 3: Claims 8, 12 and 13 are rendered obvious over Heedfeld	50
a. Independent Claim 12.....	50
b. Dependent Claim 13	57
c. Independent Claim 8.....	58
B. Proximity Alert Claims	66
1. Ground 4: Claim 1 is rendered obvious over Layson’757 in view of Layson’213 in view of IllinoisLaw	66
a. A POSITA would have been motivated to combine Layson’757-Layson’213-IllinoisLaw and had a reasonable expectation of success	66
b. Independent Claim 1	72
2. Ground 5: Claim 2 is rendered obvious by Layson’757- Layson’213-IllinoisLaw in view of Wang.....	92
a. A POSITA would have been motivated to combine Layson’757-Layson’213-IllinoisLaw-Wang with a reasonable expectation of success	92
b. Dependent Claim 2	95
XIII. THE BOARD SHOULD NOT USE ITS DISCRETION TO DENY INSTITUTION UNDER <i>FINTIV</i>	98
XIV. CONCLUSION.....	99

LIST OF EXHIBITS¹

Ex-1001	U.S. Patent No. 7,199,726
Ex-1002	Declaration of Mr. Scott Andrews
Ex-1003	Curriculum Vitae of Mr. Scott Andrews
Ex-1004	File History of U.S. Patent No. 6,441,752
Ex-1005	File History of U.S. Patent No. 6,756,918
Ex-1006	File History of U.S. Patent No. 7,199,726
Ex-1007	U.S. Patent No. 5,731,757 (“Layson ’757”)
Ex-1008	U.S. Patent No. 6,405,213 (“Layson ’213”)
Ex-1009	U.S. Patent No. 5,365,451 (“Wang”)
Ex-1010	720 Ill. Comp. Stat. Ann. 5/12-7.3, as amended by 1995 Ill. Legis. Serv. P.A. 89-377 (H.B. 1792), eff. Aug. 18, 1995 (“IllinoisLaw”)
Ex-1011	U.S. Patent No. 6,160,481 (“Taylor”)
Ex-1012	U.S. Patent No. 5,497,149 (“Fast”)
Ex-1013	U.S. Patent No. 6,212,393 (“Suarez”)
Ex-1014	U.S. Patent No. 5,532,702 (“Mintz”)
Ex-1015	U.S. Patent No. 5,493,694 (“Vlcek”)
Ex-1016	U.S. Patent No. 3,663,762 (“Joel”)
Ex-1017	Australian Patent App. No. 200037767 (“Mezhvinsky”)
Ex-1018	Certified Translation of German Patent Application Publication DE 19751741A1 (“Heedfeld”)

¹ Four-digit pin citations that begin with 0 are to the branded numbers added by Petitioner in the bottom right corner of the exhibits. All other pin citations are to original page, column, paragraph, or line numbers.

Ex-1019	German Patent Application Publication DE 19751741A1
Ex-1020	Claim Mapping Table
Ex-1021	U.S. Patent No. 4,242,538 (“Ito”)
Ex-1022	U.S. Patent No. 5,736,962 (“Tendler”)
Ex-1023	U.S. Patent No. 6,133,853 (“Obradovich”)
Ex-1024	U.S. Patent Application Publication No. 2002/0034292 (“Tuoriniemi”)
Ex-1025	U.S. Patent No. 6,968,179 (“De Vries”)
Ex-1026	U.S. Patent No. 5,904,727 (“Prabhakaran”)
Ex-1027	Enovsys Infringement Contentions
Ex-1028	INTENTIONALLY LEFT BLANK
Ex-1029	Yilin Zhao, <i>Vehicle Location and Navigation Systems</i> , Artech House Publishers (1st ed. 1997)
Ex-1030	U.S. Patent No. 6,901,260 (“Xin”)
Ex-1031	U.S. Patent No. 5,592,173 (“Lau”).
Ex-1032	U.S. Patent No. 6,748,224 (“Chen”)
Ex-1033	U.S. Patent No. 5,208,756 (“Song”)
Ex-1034	Joseph Hoshen, et al., <i>Wide Area Continuous Offender Monitoring</i> , Lucent Technologies, New Mexico Corrections Dept., Sandia National Laboratories (1996)
Ex-1035	U.S. Patent No. 5,461,390 (“Hoshen”)
Ex-1036	Soumia Ichoua, et al., <i>Diversion Issues in Real-Time Vehicle Dispatching</i> , <i>Transportation Science</i> , INFORMS (2000)
Ex-1037	Rebecca K. Lee, <i>Romantic and Electronic Stalking in a College Context</i> , 4 Wm. & Mary J. Women & L. 373-466 (1998) (“Lee”)
Ex-1038	U.S. Patent No. 5,982,281 (“Layson’281”)

Ex-1039	J. Hoshen and G. Drake, <i>Offender Wide Area Continuous Electronic Monitoring Systems: Project Summary</i> , National Institute of Justice, report NCJ 187102 (2000)
Ex-1040	<i>Project To Develop a Model Anti-Stalking Code for States</i> , National Criminal Justice Association, National Institute of Justice, report NCJ 144477 (Oct. 1993)
Ex-1041	U.S. Patent No. 5,266,944 (“Carroll”)
Ex-1042	International Patent Pub. No. WO 96/20464 (“Green”)
Ex-1043	U.S. Patent No. 6,072,396 (“Gaukel”)
Ex-1044	J. Travis, <i>Stalking: Lessons from Recent Research</i> , National Center for Women and Policing Conference (Apr. 14, 1999)
Ex-1045	<i>Domestic Violence, Stalking, and Antistalking Legislation – An Annual Report to Congress under the Violence Against Women Act</i> , National Institute of Justice Research Report (Apr. 1996)
Ex-1046	Emily Spence-Diehl, <i>Stalking – A Handbook for Victims</i> , Learning Publications, Inc. (1999)
Ex-1047	<i>The Crime of Stalking: How Big Is the Problem?</i> , National Institute of Justice Research Preview (Nov. 1997)
Ex-1048	Brian E. McGuire & Anita E. Wraith, <i>Legal and Psychological Aspects of Stalking: A Review</i> , The Journal of Forensic Psychiatry, Vol. 11, No. 2 (Sept. 2000)
Ex-1049	David D. Clark, Kenneth T. Pogran, and David P. Reed, <i>An Introduction to Local Area Networks</i> , Proceedings of the IEEE, Vol. 66, No. 11 (Nov. 1978)
Ex-1050	Ivan Pepelnjak and Jim Guichard, <i>MPLS and VPN Architectures – A practical guide to understanding, designing and deploying MPLS and MPLS-enabled VPNs</i> , Cisco Press (2001)
Ex-1051	Excerpts from C. J. Date, <i>An Introduction to Database Systems, The Systems Programming Series</i> , Addison-Wesley Publishing Co., (6th ed. 1995)

Ex-1052	Excerpts from Elmasri Navathe, <i>Fundamentals of Database Systems</i> , Addison-Wesley (3rd ed. 2000)
Ex-1053	John J. Moslow, <i>False Alarms: Cause for Alarm</i> , 63 FBI Law Enforcement Bulletin 63, No. 11 (Nov. 1994)
Ex-1054	J. Reid Meloy, <i>Stalking (Obsessional Following): A Review of Some Preliminary Studies</i> , Aggression and Violent Behavior, Vol. 1, No. 2, pp. 147-162 (1996)
Ex-1055	Paul E. Mullen et al., <i>Study of Stalkers</i> , Am. J. Psychiatry 156:8 (Aug. 1999)

I. INTRODUCTION

Uber Technologies, Inc. (“Petitioner”) requests *inter partes* review (“IPR”) of Claims 1, 2, 8, 12 and 13 of U.S. Patent No. 7,199,726 (“the ’726 Patent”) (Ex-1001), currently assigned to Enovsys LLC (“PO”).

The ’726 Patent discloses a communication system consisting of mobile units capable of determining and providing their location, and claims two embodiments with different applications.

Claims 8 and 12-13 (“Geographic Boundary Claims”) relate to specifying a geographic boundary and requesting the location of remote units within that boundary. The Geographic Boundary Claims recite communicating with a portable mobile remote unit within a geographic region to determine whether the unit is located within a specified geographic boundary. The prior art teaches vehicle dispatch systems that communicate with fleet vehicles to determine the vehicles’ location in relation to a specific region to fulfill a user’s request. The prior art renders the Geographic Boundary Claims unpatentable.

Claims 1 and 2 of the ’726 Patent (“Proximity Alert Claims”) relate to a “tracking mode,” in which a wireless consumer is alerted to mobile units maintaining relative proximity to the consumer. Claim 1, for example, recites requesting that mobile devices within a prescribed geographic boundary disclose their location. Those locations are then used to identify devices that have maintained proximity to

a particular device over time. The prior art teaches comparable victim-offender tracking systems in which the victim and offender locations are tracked. When the offender's device is in violation of a buffer zone around the victim's device for a "loiter time", such violation is reported. The prior art thus renders the Proximity Alert Claims unpatentable.

These grounds are more than reasonably likely to prevail, and this Petition should be granted.

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8

Real Parties-in-Interest: Petitioner identifies the following real parties-in-interest: Uber Technologies, Inc.

Related Matters: A decision in this proceeding could affect or be affected by the following: (1) *Enovsys LLC v. Uber Technologies, Inc. d/b/a Uber*, 5:23-cv-04549 (N.D. Cal.); and (2) *Enovsys LLC v. Lyft, Inc.*, 5:23-cv-05157 (N.D. Cal.).

Lead and Back-Up Counsel:

- Lead Counsel:

William M. Fink (Reg. No. 72,332)
O'Melveny & Myers LLP
1625 Eye Street, NW
Washington, DC 20006
Telephone: (202) 383-5300
Fax: (202) 383-5414
E-Mail: tfink@omm.com

- Backup Counsel:

Ben Haber (Reg. No. 67,129)
O'Melveny & Myers LLP
400 South Hope Street, 18th Floor
Los Angeles, CA 90071
Telephone: (213) 430-6000
Fax: (213) 430-6407
E-Mail: bhaber@omm.com

Frances Mackay (*pro hac vice* anticipated)
O'Melveny & Myers LLP
2801 North Harwood Street, Suite 1600
Dallas, TX 75201-2692
Telephone: (972) 360-1900
Fax: (972) 360-1901
E-Mail: fmackay@omm.com

Argirenia Zervos (*pro hac vice* anticipated)
O'Melveny & Myers LLP
1625 Eye Street, NW
Washington, DC 20006
Telephone: (202) 383-5300
Fax: (202) 383-5414
E-Mail: rzervos@omm.com

Service Information: Petitioner consents to electronic service by email to
the following addresses:

- tfink@omm.com
- bhaber@omm.com
- fmackay@omm.com
- rzervos@omm.com

III. FEE AUTHORIZATION

Pursuant to 37 C.F.R. §42.15(a) and §42.103(a), the PTO is authorized to
charge any and all fees to Deposit Account No. 50-0639.

IV. GROUNDS FOR STANDING

Petitioner certifies that the '726 Patent is available for review, this Petition is timely filed, and Petitioner is not barred or estopped from requesting review.

V. PRECISE RELIEF REQUESTED

Petitioner requests review and cancellation of Claims 1, 2, 8, and 12-13 as unpatentable based on the following grounds, supported by a declaration from Mr. Scott Andrews. Ex-1002 ¶¶1-95, 105-317.

Ground	Summary
Geographic Boundary Grounds	
1	Claims 12 and 13 are obvious over U.S. Patent No. 6,212,393 (“Suarez,” Ex-1013)
2	Claim 8 is obvious over Suarez in view of AU200037767 (“Mezhvinsky,” Ex-1017)
3	Claims 8, 12, and 13 are obvious over DE19751741A1 (“Heedfeld,” Ex-1018) ²
Proximity Alert Grounds	
4	Claim 1 is obvious over U.S. Patent No. 5,731,757 (“Layson’757,” Ex-1007) in view of U.S. Patent No. 6,405,213 (“Layson’213,” Ex-1008) in view of 720 Ill. Comp. Stat. Ann. 5/12-7.3, as amended by 1995 Ill. Legis. Serv. P.A. 89-377 (H.B. 1792), eff. Aug. 18, 1995 (Ex-1010, “IllinoisLaw”)
5	Claim 2 is obvious over Layson’757 in view of Layson’213 and IllinoisLaw, in further view of U.S. Patent No. 5,365,451 (“Wang,” Ex-1009)

² Ex-1018 is the certified translation of the original Heedfeld publication, Ex-1019. Petitioner’s citations are to the certified translation, Ex-1018.

Petitioner notes the close relationship between the two claim types and unpatentability grounds across Patent Owner's three patents, including the '726 Patent challenged here:

Claim Types	'752 Patent	'918 Patent	'726 Patent	Grounds
Proximity Alert Claims (8 unique claims) ³	1	15		Layson'757-Layson'213
	4			Layson'757-Layson'213-Wang
	9, 14	1, 22	1	Layson'757-Layson'213-IllinoisLaw
	15	2	2	Layson'757-Layson'213-IllinoisLaw-Wang
		15		Taylor-Fast
		1, 2, 22		Taylor-Fast-IllinoisLaw
Geographic Boundary Claims (4 claims)			12, 13	Suarez
			8	Suarez-Mezhvinsky
	6			Suarez-Mintz
			8, 12, 13	Heedfeld

VI. THE CHALLENGED PATENT⁴

A. Geographic Boundary Claims

The '726 Patent describes portable remote units (PRUs) dispersed in a geographic area. Ex-1001, 4:25-26. The network sends a page to nearby PRUs to

³ Claim 14 of U.S. Patent No. 6,441,752 ("'752") recites the exact same limitations as Claim 1 of U.S. Patent No. 6,756,918 ("'918"). Claim 15 of the '752 Patent recites the same limitations as Claim 2 of the '918 and '726 Patents. Claim 1 of the '918 and the '726 Patents use slightly different language to describe substantially the same invention. *See* Ex-1020.

⁴ Emphasis added unless otherwise noted.

determine if nearby PRUs are within a specified geographic boundary. The geographic boundary information is specified by, e.g., latitude and longitude and radius information. *Id.*, 7:59-61; *see also id.*, 10:24-26. When a PRU receives a page seeking its location, the PRU obtains its location and determines if it is within the specified boundary. Ex-1001, Fig. 6 (below); 10:26-31. If so, the PRU's location is provided back to the network. *Id.*, 10:34-36; *see also id.*, 9:4-6.

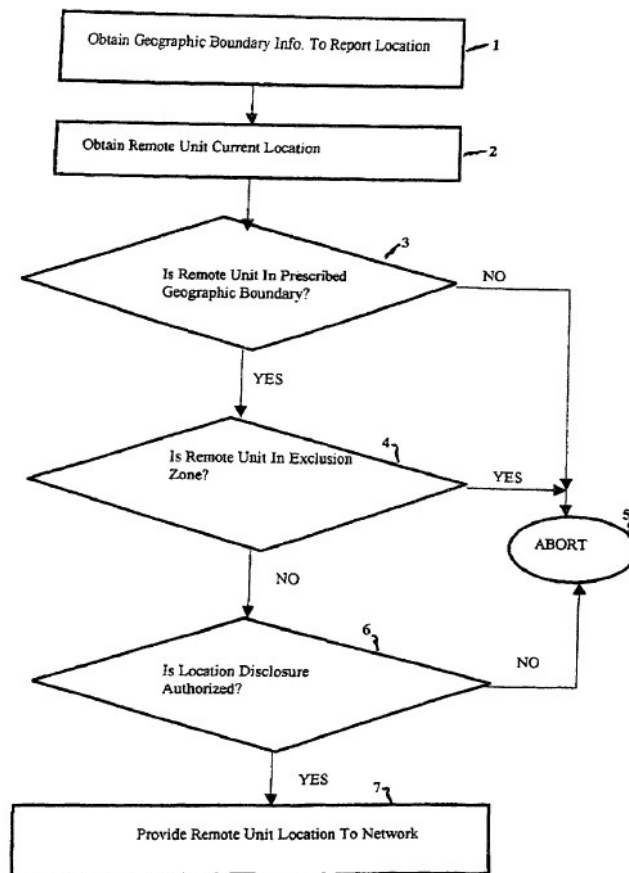


FIG. 6

B. Proximity Alert Claims

Claims 1-2 are directed to a “tracking mode” embodiment (Ex-1001, 5:37-42), in which the system is used to determine if a user is being tracked by any other mobile unit (*id.*, 3:41-43). As the user’s mobile unit moves, either that unit itself, or the control station (on behalf of the unit), requests that other nearby mobile units disclose their location. Ex-1001, 5:59-63. In one example, a list is maintained of the mobile units that disclosed their locations, and “[a]t the end of the tracking period, if there are any units in the tracking list and [a] minimum tracking distance was covered, such communication units are deemed to be tracking [the user] and are reported to the [user].” Ex-1001, 6:8-11.

VII. PROSECUTION HISTORY OF THE ’726 PATENT

The ’726 Patent was filed June 28, 2004 and claims priority as a continuation-in-part of an application filed on December 30, 2000. Ex-1001, (63). After being rejected, Applicant amended the claims to recite “while in motion” for the Proximity Alert Claims and recite “portable mobile remote units are able to communicate with a network transmitter to establish their location within the system” for the Geographic Boundary Claims, arguing that the prior art “cannot determine if a portable mobile remote unit is in a designated area” or sense the movement “within the coverage area.” *Id.*, 0095, 0097, 0127. Based on this argument, the examiner allowed all claims.

None of the art relied upon in this petition was ever submitted or considered during prosecution of the '726 Patent.

VIII. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art at the relevant time (“POSITA”) would have had a bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field, and at least two years of experience in the research, design, development, and/or testing of GPS and related location tracking techniques, or the equivalent, with additional education substituting for experience and vice versa. Ex-1002 ¶¶28-30. Mr. Andrews meets or exceeds this level of skill, and provides additional discussion of relevant technical background knowledge that a POSITA would have had at the time of invention. Ex-1002 ¶¶33-96.

IX. PRIORITY DATE

The earliest possible priority for the '726 Patent is December 30, 2000. Petitioner takes no position on the proper priority date for each claim of the '726 Patent. Assuming this earliest date, all prior art references asserted in this petition are prior art.

X. CLAIM CONSTRUCTION

Claims 1 and 8 recite elements that use the word “means,” creating a rebuttable presumption that they are means-plus-function elements under 35 U.S.C. § 112 ¶6. For the purposes of this Petition and pursuant to 37 C.F.R. § 42.104(b)(3),

Petitioner's proposed constructions for these terms are below.⁵ Ex-1002 ¶¶105-126.

Petitioner does not currently believe that any other terms require express construction. Consolidated Trial Practice Guide, 44.

A. Proposed Constructions for Geographic Boundary Claims

1. **“ii) means for a wireless consumer to specify and forward to the network, geographic boundary information describing a region within a coverage area of said network where a notification should be sent to one or more of said portable mobile remote units within said region” (Claim 8)**

Function: “specify and forward to the network, geographic boundary information describing a region within a coverage area of said network where a notification should be sent to one or more of said portable mobile remote units within said region.”

Structure: “input panel 25” together with “antenna 20 and a transceiver circuitry 21” and equivalents, programmed to take user instructions (Ex-1001, 5:8-10) such as obtaining geographic information, either (a) “by latitude, longitude and radii information” (Ex-1001, 4:35-38) or (b) “by [four] distinct points that define the grid” for where the location information of portable mobile remote units is sought.

⁵ For each means-plus-function term below, Petitioner has identified structure in the '726 Patent that relates to the recited function, as set forth in Patent Owner's infringement contentions. But by doing so, Petitioner does not intend to, and does not, waive any argument about the sufficiency of the identified structure in performing the claimed function.

Ex-1001, 7:36-38. The “antenna 20 and a transceiver circuitry 21” are configured to forward portable remote unit information to the network. *Id.*, 4:62-65, 5:1-3.

2. “iii) means to forward said notification to portable mobile remote units within said region” (Claim 8)

Function: “forward said notification to portable mobile remote units within said region.”

Structure: a control unit/center, programmed to request the location of communication targets within a specific distance or boundary by sending a “page” (Ex-1001, 2:29-31), “poll” (*id.*, 3:52-54) and/or “query” (*id.*, 3:39-41, 7:25-27), together with “terrestrial network center” or “ground based transmitter stations” to relay mobile information to and from the portable mobile remote units of the network (*id.*, 4:36-43, 4:48-51), such as performing the “page,” “poll,” and/or transmission of the “query,” and equivalents thereof. *Id.*, 7:56-61.

3. “iv) means to identify said notification (iii) at the portable mobile remote unit and means to verify whether the portable remote unit exists within said region (iii)” (Claim 8)

Function: “at a portable mobile remote unit, identify said notification (iii) and verify whether the portable remote unit exists within said region”

Structure: “control unit 22,” and equivalents, programmed to: (1) receive “portable remote unit information via the antenna 20” (Ex-1001, 4:64-5:1) and (2) determine if the unit is within the consumer-specified geographic boundary region. Ex-1001, 4:64-5:6, 7:64-67 (the PRU determines if it is within the boundary).

B. Proposed Constructions for Proximity Alert Claims

1. **“(iv) means to request for the location information of portable mobile remote units that are in a geographic boundary that is prescribed within the coverage area of said network” (Claim 1)**

Function: “to request for the location information of portable mobile remote units that are in a geographic boundary that is prescribed within the coverage area of said network.”

Structure: a control unit/center (Ex-1001, 4:38-40) programmed to generate a “page,” “poll,” and/or “query” for the location information of portable remote units that are in a geographic boundary that is prescribed within the coverage area of said network (Ex-1001, 3:39-41, 3:51-54, 5:51-55, 5:59-63) together with “an antenna 20 and a transceiver circuitry 21” (Ex-1001, 4:62-64) configured to perform the page, poll, and/or transmission of the query, and equivalents thereof.

2. **“(v) means to provide the location information of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within said prescribed geographic boundary requested by the network” (Claim 1)**

Function: “to provide the location information of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within said prescribed geographic boundary requested by the network.”

Structure: “an antenna 20 and a transceiver circuitry 21” (Ex-1001, 4:62-64) configured to transmit location information (*id.*, 5:11-16), together with a “control

unit” (*id.*, 5:1-4) programmed to determine that the unit is within the prescribed geographic boundary requested by the network (*id.*, 5:63-64), and equivalents thereof.

3. **“(vi) means to determine and report to the system that, another portable mobile remote unit has maintained relative proximity to the portable mobile remote over a period of time while in motion” (Claim 1)**

Function: “to determine and report to the system that another portable mobile remote unit has maintained relative proximity to the portable mobile remote over a period of time while in motion.”

Structure: a control unit (Ex-1001, 4:38-40) programmed to: (1) receive, at intervals, the location of the “another portable mobile remote unit” (*id.*, 5:48-51, 5:59-63, 6:1-2. Fig. 5-step 3), (2) receive the locations of “the portable mobile remote units,” during such intervals (*id.*, 5:51-55, 5:59-63, Fig. 5-step 4), (3) maintain a list of such portable mobile remote unit(s) within a predefined geographic boundary of the “another portable mobile remote unit” for a period of time as the “another portable mobile remote unit” and such portable mobile remote unit(s) have moved a minimum distance⁶ (*id.*, 5:37-42, 6:58-64, Fig. 5-step 7, Fig. 5-step 10),

⁶ This construction is consistent with Patent Owner’s apparent construction from its Infringement Contentions. Ex-1027. Petitioner adopts and applies this construction for purposes of this petition, as the parties have not yet submitted claim construction contentions in district court. To the extent that the parties or Court addresses this

together with a transmitter (*id.*, 4:40-43) configured to transmit a message identifying such portable mobile remote unit(s) (*id.*, 5:37-42, Fig. 5-step 11), and equivalents thereof. The control unit may be within the “another portable mobile remote unit” or a network control center. Ex-1001, 5:44-48, 6:48-56 (similar).

4. “means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location information to the network.

Function: “to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location information to the network.”

Structure: a control unit (Ex-1001, 4:38-40) programmed to (1) compare its current location to an exclusion zone (*id.*, Fig. 6-step 4); (2) if its current location is within the exclusion zone, abort (*id.*, Fig. 6-step 5); (3) otherwise, proceed to provide its current location to the network (*id.*, Fig. 6-step 7), and equivalents thereof.

term or others, Petitioner will submit such information for the record. 37 C.F.R. §42.100(b). Additionally, to the extent that Patent Owner or the Board adopts a construction that does not require a “minimum distance” as part of the algorithm that performs the recited function, then Claims 1 and 2 are rendered obvious by the Layson’757-Layson’213 combination without the need to rely on IllinoisLaw, as explained in further detail in the grounds, below.

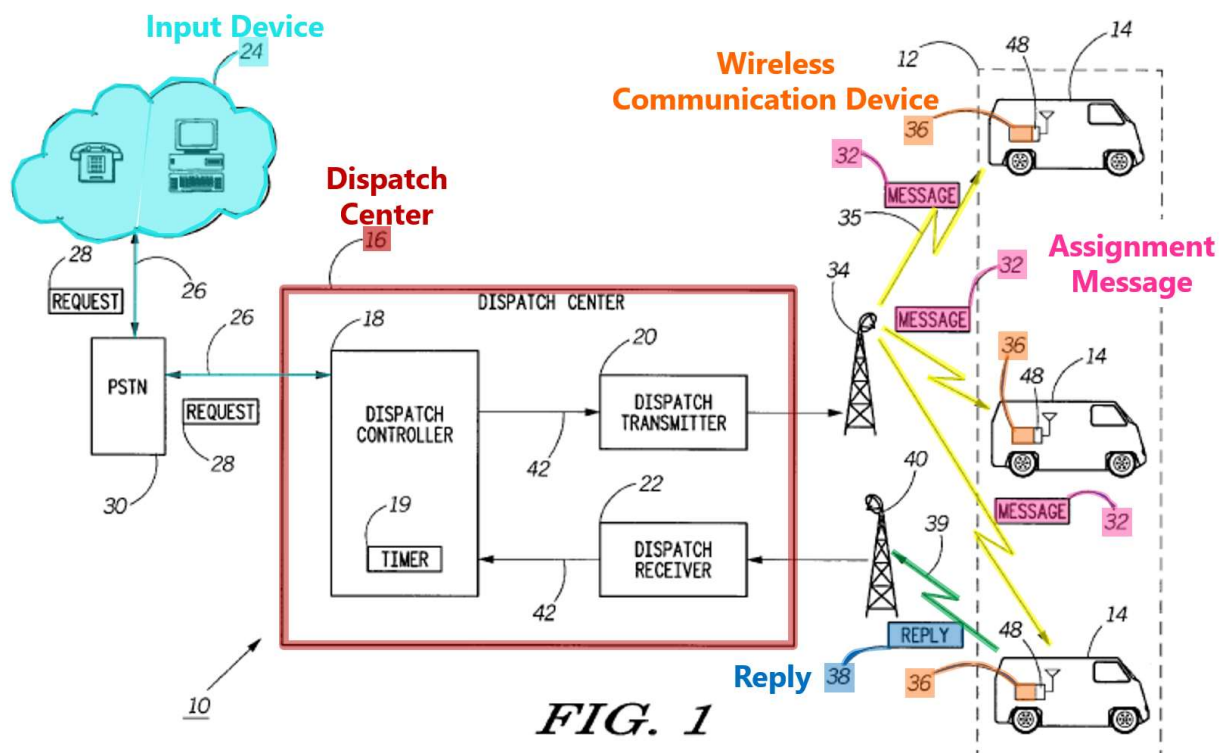
XI. BRIEF DESCRIPTION OF THE APPLIED PRIOR ART

A. Prior Art Applied to the Geographic Boundary Claims

1. Suarez (Ex-1013)

Suarez, titled “Method and Apparatus for Communication Within a Vehicle Dispatch System,” is U.S. Patent No. 6,212,393, filed August 2, 1999, and issued April 3, 2001. Ex-1002 ¶¶127-131. Suarez is prior art under at least pre-AIA 35 U.S.C. §102(e), based on its filing date.

Suarez discloses a vehicle dispatch system that manages fleet of vehicles 14 by dispatch center 16. Ex-1013, 2:66-3:10. Suarez’s dispatch center 16 receives a “request for dispatch” (Ex-1013, Abstract, 3:20-25), from “message input device 24,” such as “a telephone or computer terminal” (teal). *Id.*, 3:1-10; Fig. 1 (below).



The dispatch center 16 encodes the request into an outbound assignment message 32 (pink), which includes “location parameter 50 identifying the assignment location 66 of the request for dispatch 28” (Ex-1013, 9:57-58) and “a criteria parameter” indicating the perimeter or radius surrounding the assignment location. *Id.*, 9:65-10:1, 5:39-47.

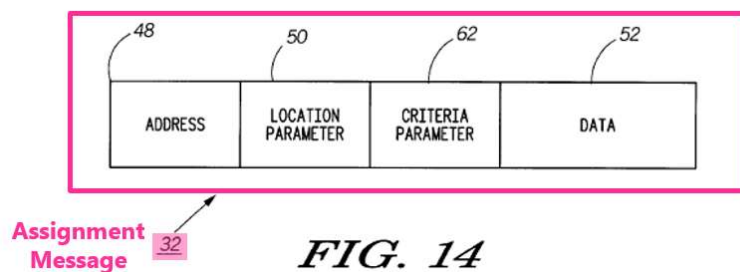


FIG. 14

The vehicle’s wireless communication device receives and processes assignment message 32. Ex-1013, 3:31-33. As shown in Figure 11 below, upon receiving assignment message 32 in step 94 (pink, *id.*, 8:60-64), the wireless communication device checks for the location parameter in the assignment message (Step 96-purple, *id.*, 8:56-64) and compares the location parameter to the vehicle’s current location using the criteria parameter (Step 102-green). *Id.*, 9:1-6. The criteria parameter is perimeter around the assignment location established by a radius. Ex-1013, 5:39-41. In one example, the criteria parameter is used for “filtering the assignment message 32” so that it will be “seen only by the vehicles ... that meet the specified criteria.” *Id.*, 5:14-19. If the wireless communication device’s current location matches the location parameter using the criteria parameter (e.g., radius

establishing a perimeter around the assignment location), then the wireless communication device will activate alerting device 64 (blue, *id.*, 9:9-13) and “transmit[] a reply to the dispatch center ... of the affirmative match.” *Id.*, Abstract, 13:9-10 (Claim 1).

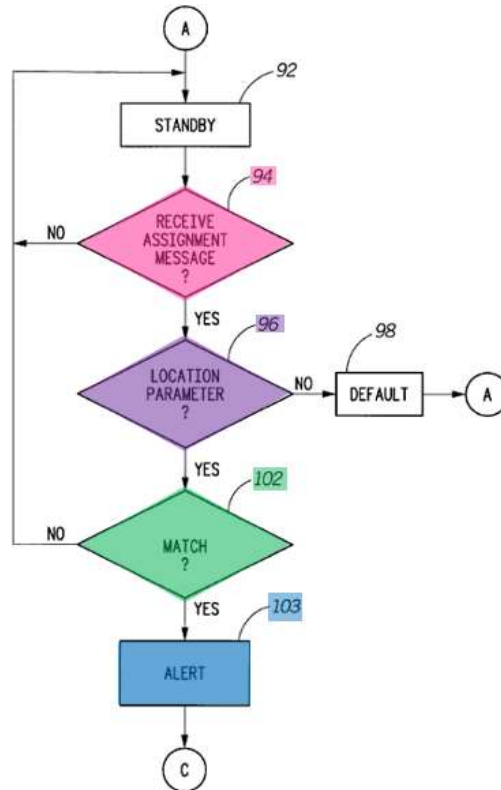


FIG. 11

2. Mezhvinsky (Ex-1017)

Mezhvinsky, titled “End User to Mobile Service Provider Message Exchange System Based On Proximity,” is Australian Patent Application No. 200037767, filed May 30, 2000, and published August 17, 2000. Ex-1002 ¶¶132-133. Mezhvinsky is prior art under at least pre-AIA 35 U.S.C. § 102(a), based on its publication date.

Mezhvinsky provides a system that allows an end user to select a mobile service provider such as a chauffeur or taxi. Ex-1017, 2:8-9, 2:13-17. The end user provides its geographical location to their own end user equipment (*id.*, 10:6-7), which may be a PC or a Personal Digital Assistant (PDA) with web access. Ex-1017, 10:26-29, 13:22-26. While working in conjunction with a web server (*id.*, Abstract, 22-29), their equipment displays an area surrounding the user at a “diameter” which can “be varied at the will of the end user.” *Id.*, 10:18-20. Figure 2 shows the display provided by a web server in response to an end user’s request for a chauffeur (orange) within a “radius of 3kms” from the end user. *Id.*, 13:28-14:2. This enables the end user to select a mobile service provider based on the geographical location of the mobile service provider relative to that end user. *Id.*, 3:30-4:2.

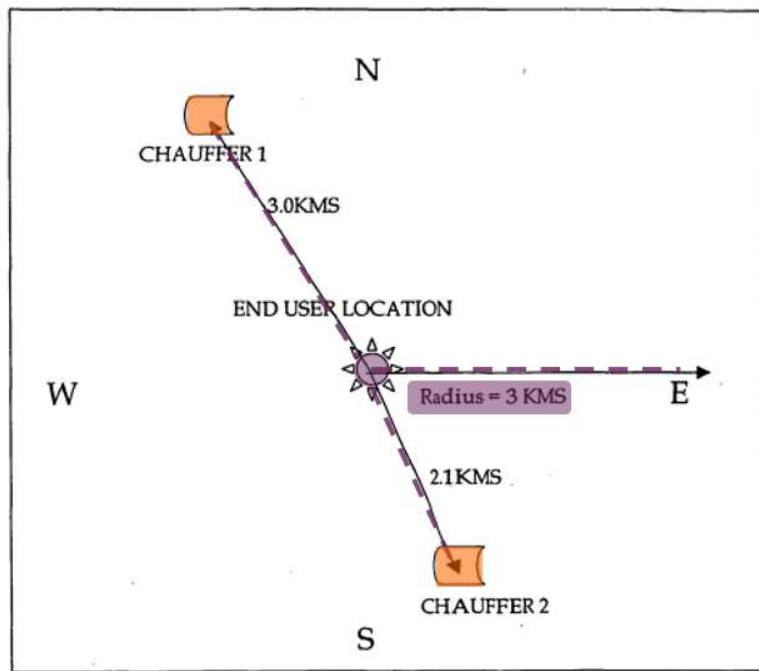


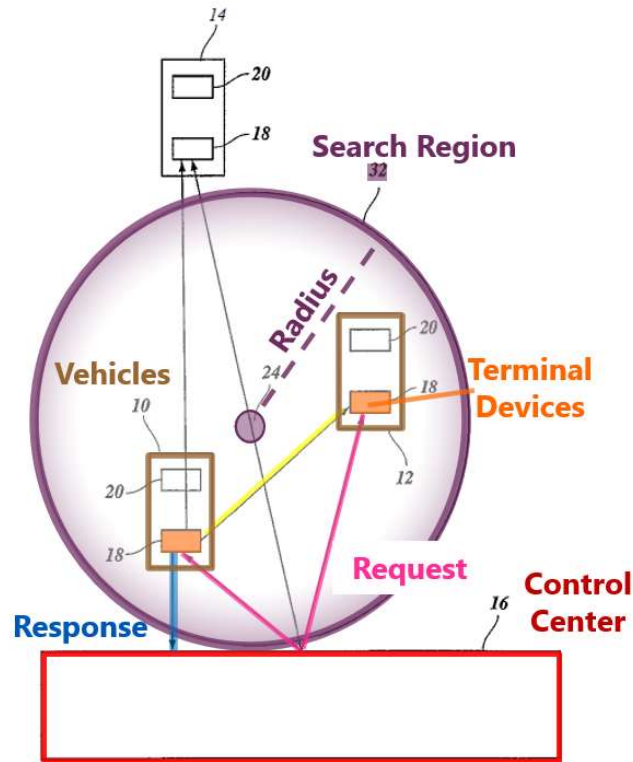
Fig. 2

3. Heedfeld (Ex-1018, Ex-1019)

Heedfeld, titled “Fleet Disposition Procedure,” is a German Patent Application Publication DE 19751741A1, filed November 21, 1997 and published May 28, 1998. Ex-1002 ¶¶134-136. Heedfeld is prior art under at least pre-AIA 35 U.S.C. § 102(a),(b), based on its publication date.

Heedfeld is a “[m]ethod for dispatching a fleet of mobile units” by a “control center” sending “coordinate data specifying a selected area to all of the units.” Ex-1018, Abstract. Figure 2 (below) shows each mobile unit (e.g., vehicles 10 and 12, (brown)) including “terminal device 18” (orange) with radio connection to control center 16 (red) and displays messages. Ex-1018, 4:32-39.

Fig. 2



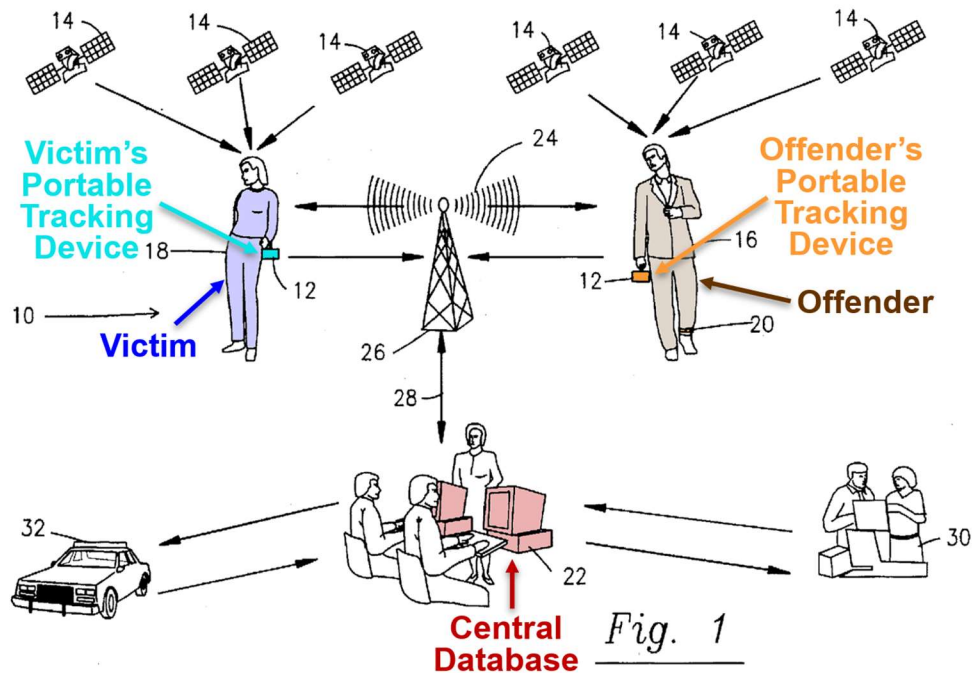
In response to receiving a request (pink) from the control center, each vehicle's terminal device "checks whether the vehicle is located within the selected area." Ex-1018, 5:8-11. The control center 16 operator defines the selected area (*id.*, 4:48-54), specified by a rectangular or circular area (defined by the coordinates of the target point and a radius). Ex-1018, 3:34-43. Only if within selected area 32 is the vehicle's position reported (blue). *Id.*, 2:26-32.

B. Prior Art Applied to the Proximity Alert Claims

1. Layson'757 (Ex-1007)

Layson'757, titled "Portable Tracking Apparatus For Continuous Position Determination of Criminal Offenders and Victims," is U.S. Patent No. 5,731,757, issued on March 24, 1998. Ex-1002 ¶¶137-141. Layson'757 is prior art under at least pre-AIA 35 U.S.C. §102(b), based on its issue date.

Layson'757 teaches dynamic tracking of offenders and victims ("subjects"), by assigning a portable tracking device to each, as illustrated in Figure 1, below. Ex-1007, 2:46-58.



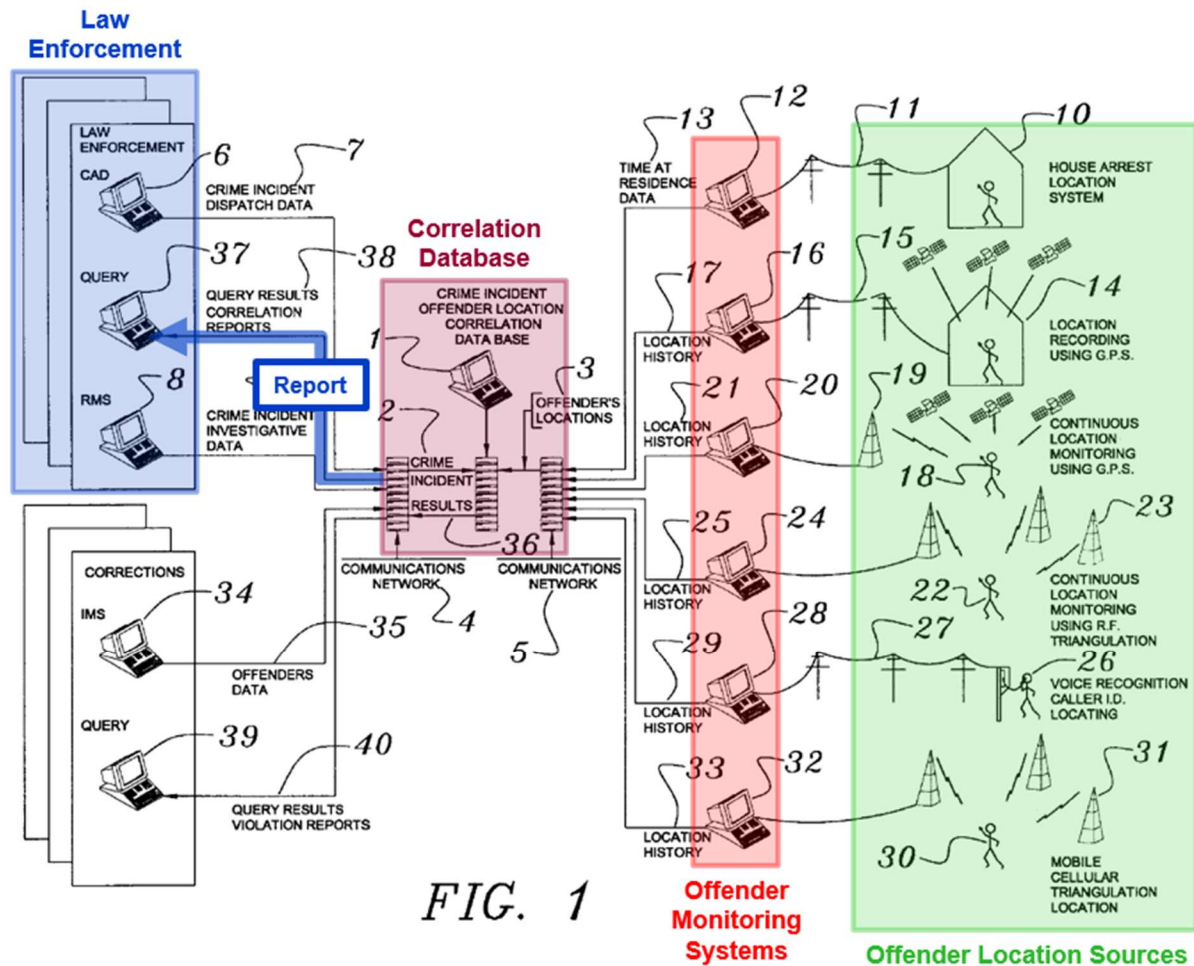
This is accomplished through "location constraints" sent from a central database to the subjects' tracking devices (Ex-1007, 9:41-50) and define "buffer zones" around

locations meant to exclude a subject (Ex-1007, 8:36-43). Using these location constraints, an offender tracking device determines locally when it is in violation of a victim's buffer zone and notifies the central database immediately. *Id.*, 9:48-50. When the central database is aware of a potential "stalker-victim encounter[]," Layson'757 discloses querying the offender and victim portable tracking devices for their locations, as part of "data fusion processing." *Id.*, 7:42-55.

2. Layson'213 (Ex-1008)

Layson'213, titled "System to Correlate Crime Incidents With a Subject's Location Using Crime Incident Data and a Subject Location Recording Device," is U.S. Patent No. 6,405,213, filed June 11, 1999, and issued June 11, 2002. Ex-1002 ¶¶142-148. Layson'213 is prior art under at least pre-AIA 35 U.S.C. §102(e), based on its filing date.

Layson'213 teaches a "crime incident/offender location correlation system," as illustrated in Figure 1, below. Ex-1008, 8:27-32.



Layson'213's system receives and analyzes offender location data from monitoring systems (Ex-1008, 8:28-32) to generate reports for law enforcement (*id.*, 10:12-23). For instance, Layson'213's may generate reports of "exclusion zone violations," corresponding to instances when an offender is located in a prohibited area. *Id.*, 23:9-38. Layson'213 explains that such exclusion zone violations are reported when the offender remains in the exclusion zone for a "loiter time," "since passing through an exclusion zone is permitted but loitering is not (i.e., pedophile driving by a school on the way to work)." *Id.*, 23:33-38.

3. Wang (Ex-1009)

Wang, titled “Mobile Unit Tracking System,” is U.S. Patent No. 5,365,451, issued November 15, 1994. Ex-1002 ¶¶149-151. Wang is prior art under at least pre-AIA 35 U.S.C. §102(b), based on its issue date.

Wang teaches a tracking system in which mobile units obtain and communicate their GPS location to a network. Ex-1009, 3:50-53. In order to conserve “communication resources” and prevent “excessive use” of battery power (Ex-1009, 1:38-52), Wang’s network provides the mobile units with “borders” (Ex-1009, 3:50-56), each sized according to the network’s desired location accuracy for the associated mobile unit (Ex-1009, 6:20-24), as illustrated in Figure 1, below. *See also* Ex-1009, 3:20-21 (border 22a), 3:25-27 (border 22b).

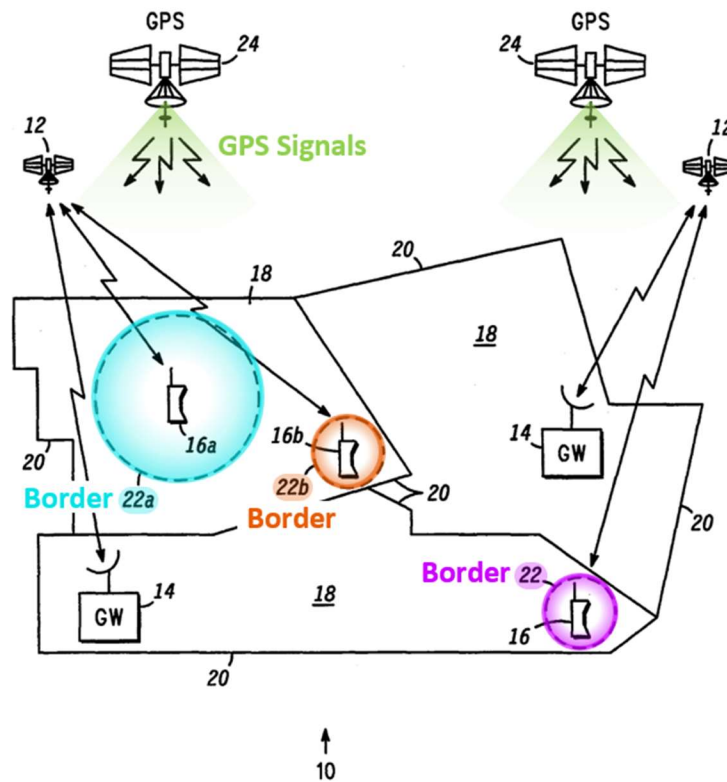


FIG. 1

When a mobile unit is located within its border, it does not need to transmit its location to the network. Ex-1009, 3:56-58. “However, when the mobile unit 16 goes outside the border 22, it sends a new location communication to network 10 and receives a new border definition in response.” *Id.*, 3:58-61.

4. IllinoisLaw (Ex-1010)

IllinoisLaw, 720 Ill. Comp. Stat. 5/12-7.3, as amended by P.A. 89-377 (H.B. 1792), was passed in the Illinois General Assembly on May 26, 1995, and became effective on August 18, 1995. Ex-1010, 0009-0023. IllinoisLaw was publicly available at least as of September 10, 1996. For example, Public Act 89-337 appears

as pages 39020-3938 of the Laws of the State of Illinois, Eighty-Ninth General Assembly (1995), Public Act 89-1 Thru Public Act 89-443, which was received and shelved in the Illinois State Library in Springfield, Illinois, on September 10, 1996, as indicated by the stamp on the front cover of the publication:

ILLINOIS DOCUMENTS
SEP 10 1996
ILLINOIS STATE LIBRARY
LAWS
OF THE
STATE OF ILLINOIS
EIGHTY-NINTH
GENERAL ASSEMBLY

1995

PUBLIC ACT 89-1
THRU
PUBLIC ACT 89-443



IllinoisLaw is thus prior art under at least pre-AIA 35 U.S.C. §102(b).

IllinoisLaw states that “[a] person commits stalking when he or she, knowingly and without lawful justification ... follows another person,” where

“‘follows another person’ means (i) to move in relative proximity to a person as that person moves from place to place.” Ex-1010.

XII. DETAILED EXPLANATION OF THE UNPATENTABILITY GROUNDS

A. Geographic Boundary Claims

1. Ground 1: Claims 12 and 13 are rendered obvious over Suarez

a. Independent Claim 12

(1) Element 12[pre]: A method for notifying portable mobile remote units within a geographic region in a wireless communication system comprising:

Suarez’s vehicle dispatch system 10 manages fleet 12 of vehicles 14 by its dispatch center 16. Ex-1013, 2:66-3:10. Each vehicle 14 includes a wireless communication device 36 (*id.*, 3:31-33), with antenna 44 for accepting signals from the dispatch center 16, receiver 46 for processing the signals (*id.*, 3:56-64), assignment manager 58 for processing the received assignment messages (*id.*, 4:9-12), memory 54 (*id.*, 4:19-23), and processor 60. *Id.*, 4:31.

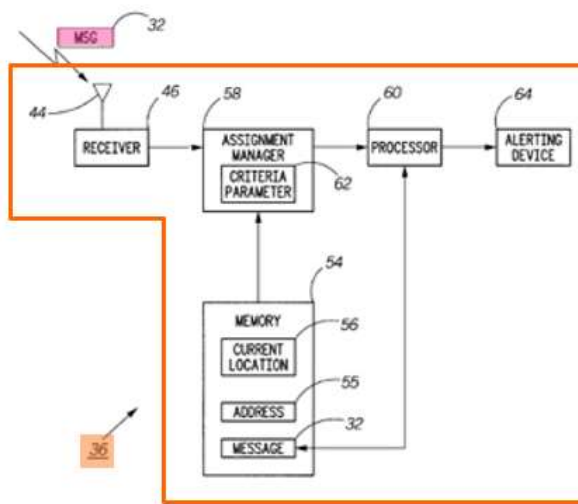


FIG. 2

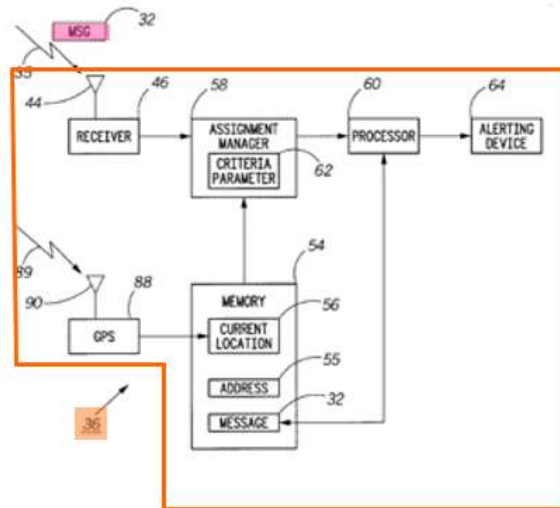


FIG. 9

The wireless communication devices may use pager or cellular communications. Ex-1013, 3:31-39; 2:14-17. Wireless communication devices 36 are the claimed portable mobile remote units (“PRUs,”) because they are used by a consumer in a moving vehicle, just as in the ’726 Patent. Ex-1001, 5:17-19; Ex-1002 ¶¶155-159 (citing Ex-1001, 5:24-25 and explaining that they are not fixed in a single location).

Suarez’s dispatch center 16 (red) receive a “request for dispatch” (teal) and sends assignment message 32 (pink) to wireless communication device 36 (orange) of each vehicle 14 that meets specified geographic criteria.

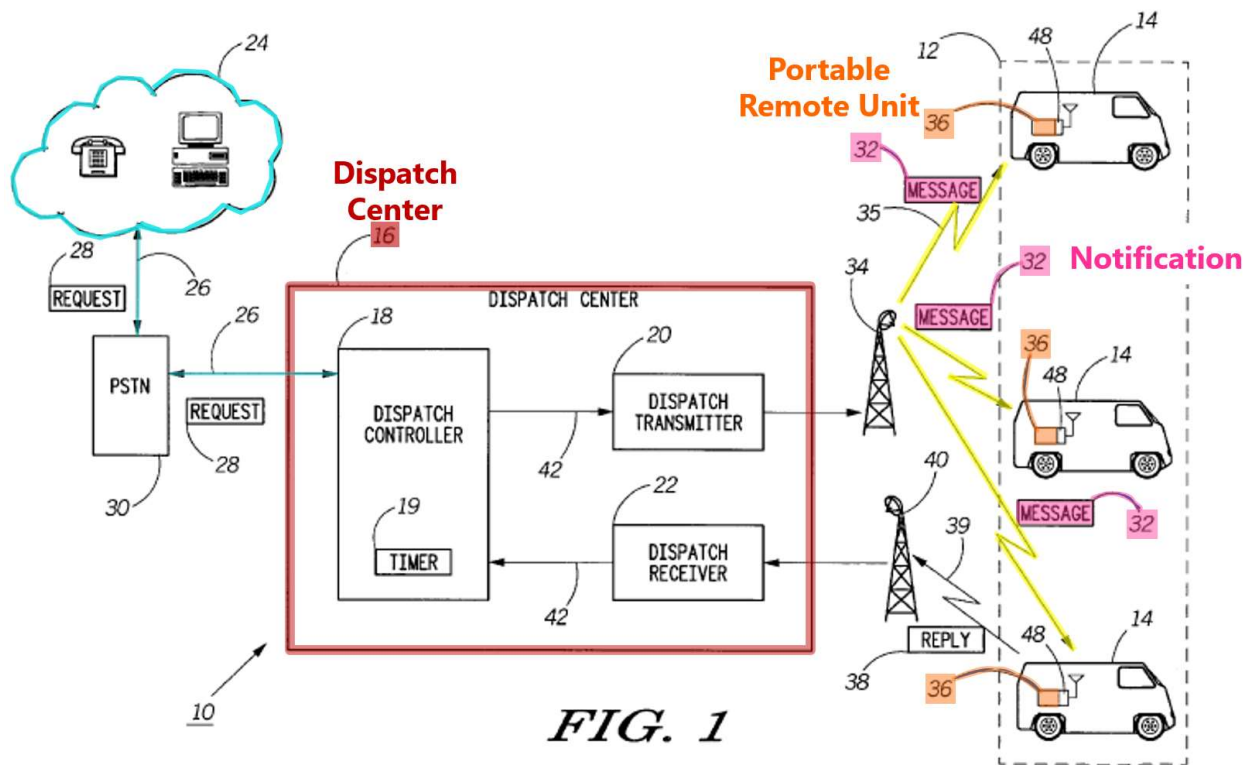
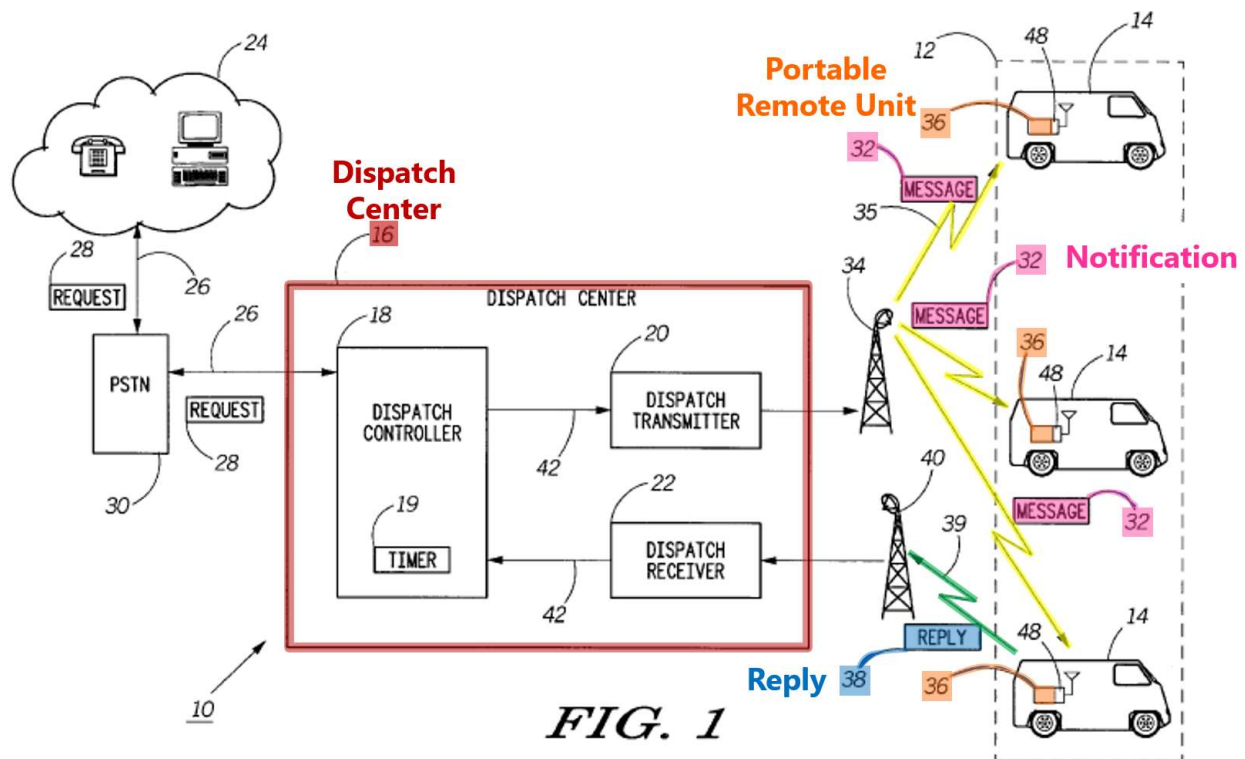


FIG. 1

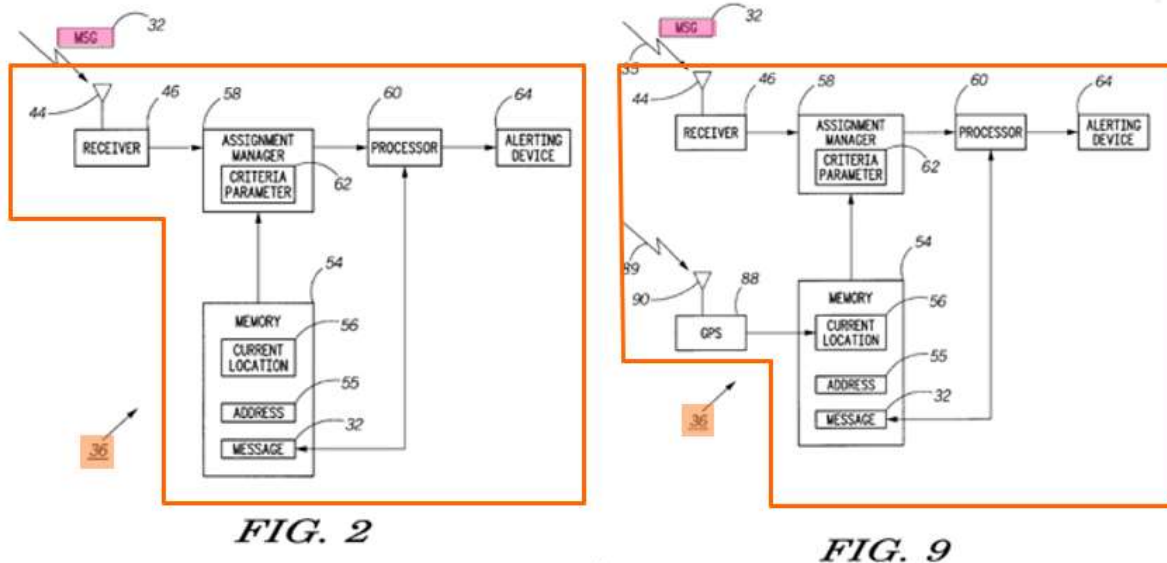
Assignment message 32 is a notification to the PRUs. Ex-1002 ¶159. Assignment message 32 includes specified “criteria” defining the assignment location and a specific radius around it. Ex-1013, 5:39-41. This criteria is used to “filter[] out assignments automatically that are outside his/her current range of assignment acceptance.” *Id.*, 5:23-27. The assignment message is transmitted by “dispatch transmitter 20, via a transmit antenna 34, to each vehicle 14” via a radio frequency channel. Ex-1013, Abstract, 3:26-33. Suarez’s communication method thus wirelessly notifies the vehicles’ PRUs within a geographic region by sending an assignment message.

- (2) **Element 12[A]: i) communicating with one or more portable mobile remote unit in a network to establish their geographic location within the system;**

Dispatch transmitter 20 communicates assignment message 32 to wireless communication device 36 in each vehicle in fleet 12. Ex-1013, 3:27-33. Wireless communication device 36 receives and processes assignment message 32 (*id.*, 3:31-33) via antenna 44 which receives signals from the dispatch center (*id.*, 3:56-59) and transmits a reply “over at least one outbound radio frequency (RF) channel.” Ex-1013, 3:46-49. The vehicles in fleet 12 make up a network of PRUs because each vehicle has a wireless communication device 36 communicating with the dispatch center over a radio connection (yellow). Ex-1002 ¶¶160-161.



Assignment message 32 is communicated to wireless communication devices 36 to establish their geographic location within the system. The vehicle may establish its current location 56 using GPS. Ex-1013, 8:11-13. Assignment manager 58 establishes the vehicle's geographic location within the system by comparing location parameter 50 (including assignment location 66, *id.*, 10:3-5) to the vehicle's current location 56. Ex-1013, Abstract, 9:1-11.

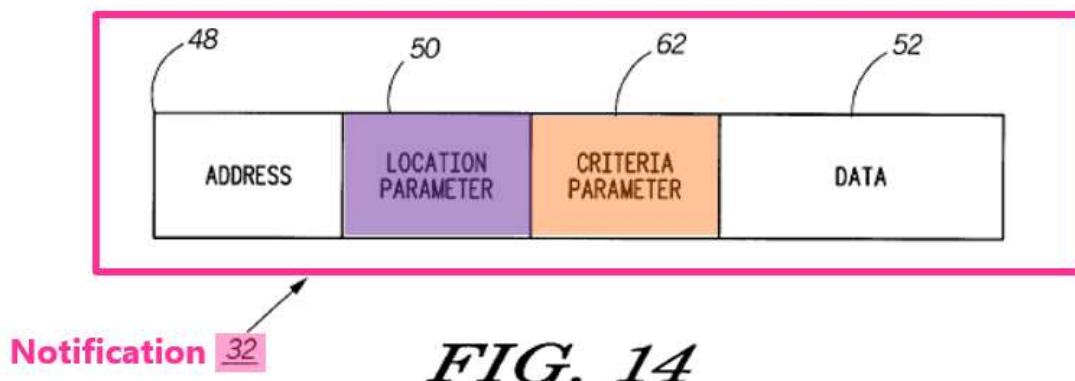


- (3) **Element 12[B]: ii) specifying and forwarding to the network, geographic boundary information describing a region within a coverage area of said network where a notification should be sent to one or more of said portable mobile remote units within said region:**

Suarez specifies and forwards the geographic boundary information describing a region that the network should send a notification to one or more PRUs. Dispatch center 16 receives a "request for dispatch" (Ex-1013, Abstract, 3:20-25),

from “message input device 24,” such as “a telephone or computer terminal” or other user input devices, using “radio frequency (RF) channels, satellite links, or Internet.” *Id.*, 3:1-10. The user of this “input device” would have communicated service request details, such as the user’s location and other details like user preferences and search region, to the system, as one typically does when calling for a taxi. Ex-1002 ¶¶162-171.

Upon receiving this request, the dispatch center creates an outbound assignment message 32 (Ex-1013, 3:21-25) that includes geographic boundary information. Ex-1002 ¶¶162-166. Dispatch transmitter 20 transmits the assignment message via a transmit antenna 34. Ex-1013, 3:27-31. Assignment message 32, below, includes “location parameter 50” which identifies “assignment location 66 of the request for dispatch 28.” *Id.*, 9:57-58. Location parameter 50 is the origin point of the assignment, e.g. latitude and longitude of the user. Ex-1002 ¶167.



Assignment message 32 also includes “a criteria parameter.” Ex-1013, 9:65-10:1. Criteria parameter 62 is a radius establishing a perimeter around the assignment location. Ex-1013, 5:39-41, 5:39-47 (referencing Figure 4).⁷ The criteria parameter is used to search the area up to the boundary surrounding the assignment location 66 at a radius 142. *Id.*, Fig. 15 (below); 10:49-52. Dispatch controller 18 includes the criteria parameter “to be sent in the assignment message 32” (*id.*, 10:15-16), so that Suarez’s assignment message (the claimed notification) includes a search radius that is forwarded to the network of PRUs. Ex-1002 ¶168.

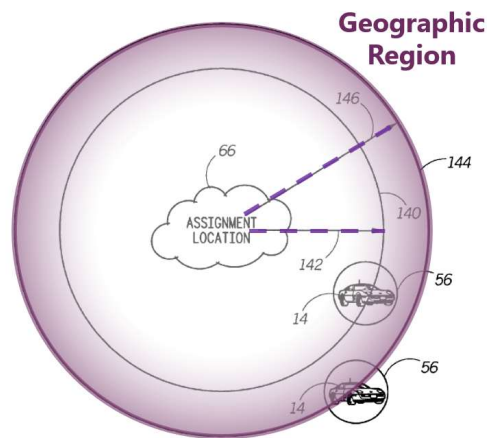


FIG. 15

The assignment message’s location parameter 50 and criteria parameter 62 are collectively the “geographic boundary information” describing a region where the notification should be sent. Ex-1002 ¶169 (assignment message includes

⁷ Criteria parameter 62 of assignment message 32 in Figure 14 can be the same as the criteria parameter of Figure 4. Ex-1013, 10:16-20.

central location and radius around it); Ex-1013, 8:44-51 (this “greatly reduces the assignment messages being received and processed by each individual driver”).

This is the same “geographic boundary information” envisioned by the ’726 Patent. Ex-1001, 7:39-40 (the geographic boundary “is defined by radius R and its latitude and longitude information”). Location parameter 50 and criteria parameter 62 are used to specify a region where the notification should be sent. In one example, the criteria parameter is used as a filter so that the assignment message is forwarded and “seen only by the vehicles 14 within the fleet 12 that meet the specified criteria.” Ex-1013, 5:14-17. Dispatch controller 18 can use the wireless communication device addresses to transmit the assignment message “only to the addressed wireless communication device 36.” *Id.*, 3:43-46. Therefore, Suarez’s dispatch controller will specify which device addresses the notification should be sent to in the assignment message, and forward it on to the appropriate networked devices. Ex-1002 ¶170.

To be clear, Suarez satisfies this claim element in at least two ways: via (1) the user to the dispatch center and (2) the dispatch to the wireless communication device in each vehicle. Ex-1002 ¶¶164-169, 171. First, the user of “message input device 24” will “specify[] and forward[] [geographic boundary information] to the network,” (e.g., dispatch center) when the user submits its “request for dispatch” to the system. Second, the dispatch will “specify[] and forward[] to the network,

geographic boundary information describing a region within a coverage area of said network” when it generates the assignment messages for the network of PRUs that may accept the assignment. Both of these teachings in Suarez satisfy this claim element.

(4) Element 12[C]: iii) forwarding said notification to portable mobile remote units within said region;

Suarez forwards a notification to PRUs within the region. Specifically, dispatch controller 18 encodes inbound requests from input device 24 into outbound assignment messages 32, which are then forwarded to the wireless communication devices of vehicles 14. Ex-1013, 3:21-24. The assignment message includes location parameter 50 and criteria parameter 62. Ex-1013, 9:65-10:1. Criteria parameter 62 may be a “perimeter 68 surrounding the assignment location 66 established at a radius 70 from the assignment location 66.” *Id.*, 5:36-40. Suarez’s teaches that the criteria parameter is a filter used so that the assignment message is “seen *only* by the vehicles... that meet the specified criteria.” Ex-1013, 5:14-17. In order to do this, the dispatch controller would have used the wireless communication device’s specific address to transmit the assignment message “only to the addressed wireless communication device 36.” *Id.*, 3:43-46; Ex-1002 ¶¶172-173. Moreover, a POSITA would have been motivated to do so to prevent unnecessary overload and processing and eliminate problems of “drivers affirmatively replying to assignment messages

clearly outside their range for the purpose of maximizing their own income.” Ex-1013, 6:9-14. Thus, Suarez’s dispatch controller forwards a notification as assignment message 32 to the wireless communication devices within the region of criteria parameter 62 (i.e., a radius establishing a perimeter surrounding the assignment location).⁸ Ex-1002 ¶173.

(5) Element 12[D]: iv) identifying said notification (iii) at the portable mobile remote unit and verifying whether the portable remote unit exists within said region (iii).

Device 36 identifies the notification and verifies that the unit is within the region. Wireless communication device 36 is in standby mode until “receipt of the assignment message 32.” Ex-1013, 8:54-60. Thus, wireless communication device 36 identifies the notification and exits the standby mode when the message is received. Ex-1002 ¶¶174-175. Upon receiving assignment message 32 (the claimed notification) in step 94 (pink), the wireless communication device checks for the location parameter 50 in the assignment message in step 96 (purple, *id.*, 8:56-64)

⁸ A POSITA would have understood that Element 12[C] does not require that the notification is forwarded to the PRUs *only* within said region and specifically preclude also sending messages to units that may be outside the region, otherwise Element 12[D]’s step of verifying whether the PRUs exists within said region would be unnecessary. Regardless, if the claim were understood this narrowly, Suarez expressly includes the narrow teaching of sending a notification only to those vehicles that meet the specified location criteria, such that the messages are received and seen only by that specific subset of vehicles. Ex-1013, 5:14-17.

and compares location parameter 50 to current location 56 using criteria parameter 62 in step 102 (green). *Id.*, 9:1-6.

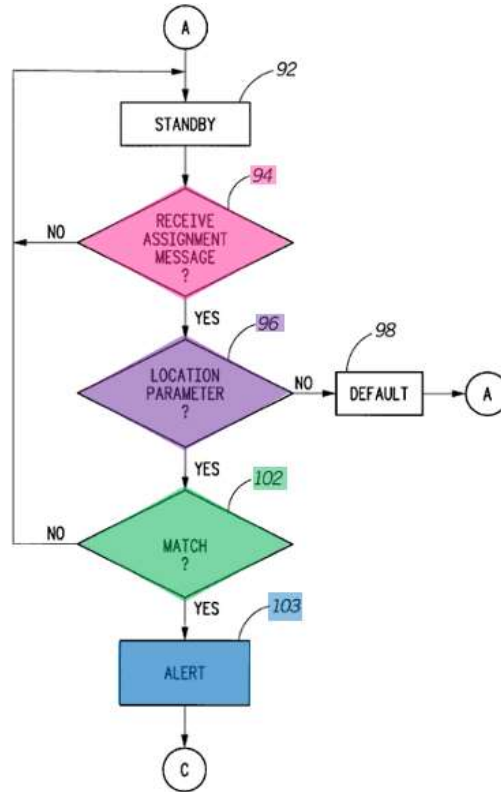


FIG. 11

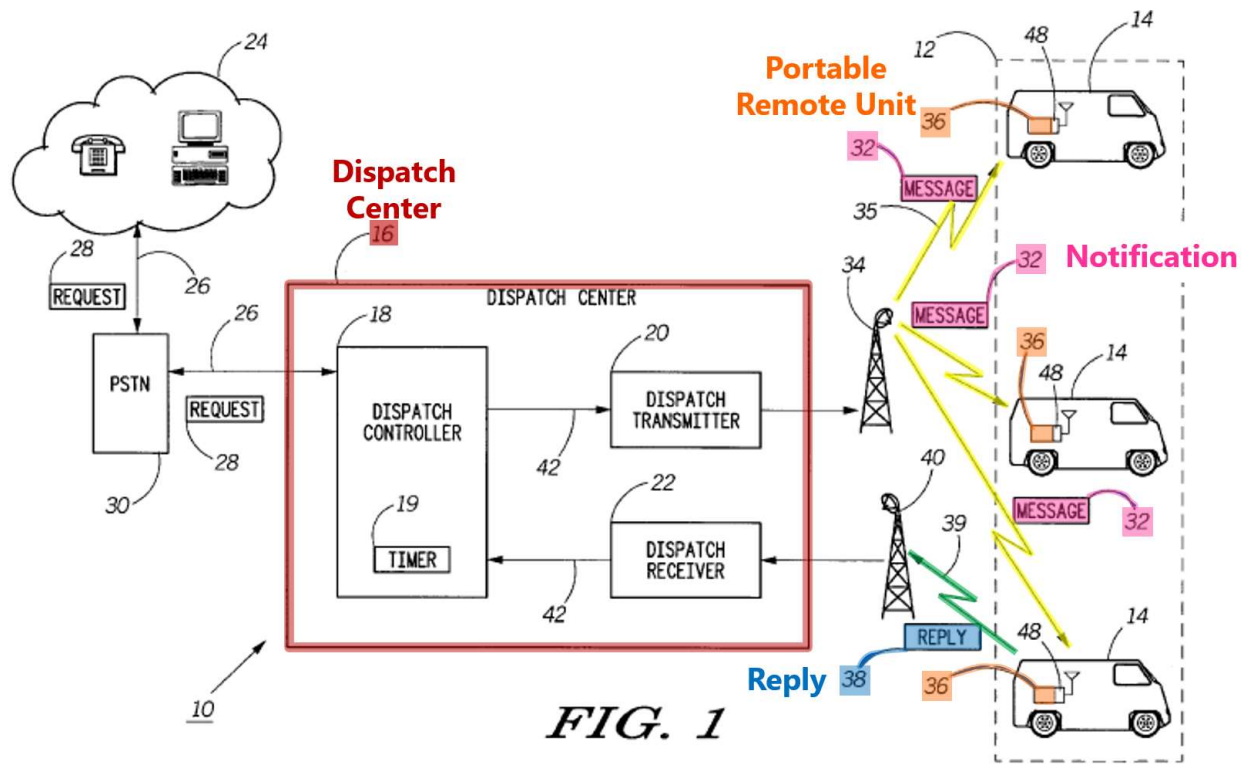
Suarez’s wireless communication device thus verifies that the vehicle exists within the geographic region specified by the criteria parameter. Ex-1002 ¶175. Specifically, criteria parameter 62 defines the perimeter “surrounding the assignment location 66 established at a radius 70 from the assignment location 66.” Ex-1013, 5:36-41. Thus, when wireless communication device 36’s assignment manager 58 compares the location parameter 50 to current location 56 using the

criteria parameter (*id.*, 9:1-6), the wireless communication device verifies that the vehicle exists within the region's "perimeter." *Id.*, 5:40-49.

b. Dependent Claim 13

- (1) **Claim 13: The method of claim 12 further comprising responding to said notification if said portable mobile remote unit (iv) exist within the geographic boundary defined by said region.**

Suarez's wireless communication device 36 (the claimed PRU) responds with "reply [38, blue] to the dispatch center" if the vehicle's wireless communication device is within the geographic boundary, such as when the vehicle's current location "affirmative[ly] match[es]" the location parameter 50 and surrounding criteria parameter 62. Ex-1013, Abstract, Cl. 1 (13:6-10); Ex-1002 ¶176.



2. **Ground 2: Claim 8 is rendered obvious over Suarez in view of Mezhvinsky**
 - a. **A POSITA would have been motivated to combine Suarez-Mezhvinsky with a reasonable expectation of success**

A POSITA would have been motivated to combine the teachings of Suarez and Mezhvinsky (“Suarez-Mezhvinsky”) and would have had a reasonable expectation of success in doing so because both are systems and methods for dispatching a vehicle or mobile service provider to respond to a call for assistance. Ex-1013, Abstract; Ex-1017, Abstract at 3-7; Ex-1002 ¶¶177-179. For example, Suarez’s dispatch controller receives a “request for dispatch” and transmits an assignment message to a fleet of vehicles so that each available vehicle can reply. Ex-1013, Abstract, 3:20-25 (outbound assignment message), 7:19-26 (reply to assignment message). Mezhvinsky similarly allows an end user to obtain services of a mobile service provider such as a chauffeur or taxi. Ex-1017, 2:8-9, 13-17. Mezhvinsky explicitly teaches that the end user should provide its geographical location to the system. *Id.*, 10:6-9. Mezhvinsky’s central station identifies the location of one or more mobile service providers in the desired area displayed to the end user. *Id.*, 10:20-23. Specifically, Mezhvinsky explains that a user should provide its location and a search radius around that location to look for taxi services, as shown in Figure 2.

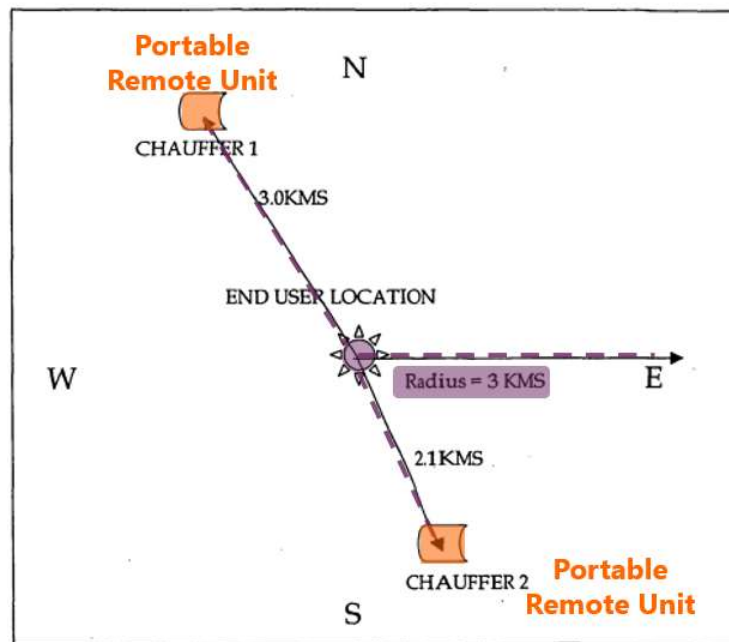


Fig. 2

A POSITA would have been motivated to combine Mezhvinsky's teaching for the user to designate the search region for vehicles with Suarez's teachings because they would have recognized that it is "preferable" for the user to provide its location. Ex-1017, 10:5-9. This ensures that the precise location requirement "is known to the device controlling the display," allowing the user increased specificity and control over their preferred provider. Ex-1017, 10:5-9, Cl. 1 (18:9-11). In the combined system, Suarez's communication system would include the user, using a PDA or smartphone (acting as Suarez's "input device 24"), designating specific geographic boundary information to search for a mobile service provider, as taught by Mezhvinsky, so that the end user defines and provides its preferred specific search criteria for mobile service providers. Ex-1002 ¶179. A POSITA seeking to improve

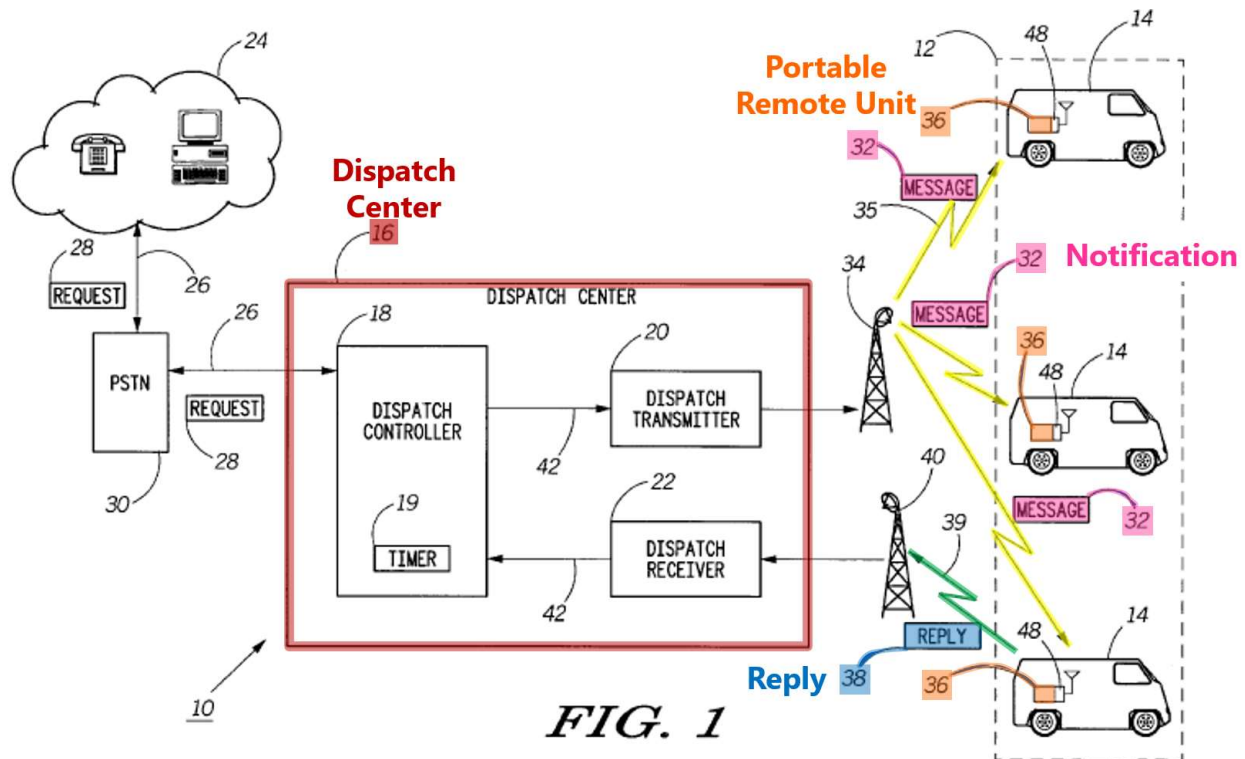
dispatch systems would have known of and applied Suarez and Mezhvinsky together. *Id.*

b. Independent Claim 8

**(1) Element 8

```
[pre]: A communication system comprising:
```**

Suarez discloses a communication system comprising its vehicle dispatch system 10 that manages fleet 12 of vehicles 14 with its dispatch center 16. Ex-1013, 2:66-3:10. Suarez's communication system provides for the dispatch center 16 and vehicles 14 to communicate via a radio frequency channel (yellow). Ex-1002 ¶¶180-181.



(2) Element 8[A]: i) a network of communication resources;

Vehicle dispatch system 10 utilizes telephone or “any wireless RF channel” for dispatch center 16 to communicate with “message input device 24” (Ex-1013, 3:4-10) and “wireless communication device[s] 36.” Ex-1013, 3:31-40. Message input device 24 is a “telephone or computer terminal connected through a conventional public switched telephone network (PSTN) 30 by a plurality of conventional telephone links” to the dispatch center 16. Ex-1013, 3:1-10. Suarez’s fleet 12 consists of vehicles 14 with each including “a wireless communication device 36 capable of receiving and processing” signals from dispatch center 16. *Id.*, 3:31-33. Suarez’s wireless communication devices 36 in each vehicle 14 and the message input device 24 are collectively a network of communication resources because they communicate with the dispatch center over one or more radio connections. Ex-1002 ¶182.

(3) Element 8[B]: ii) a pool of portable mobile remote units that are able to communicate with the network to establish their geographic location within the system;

Suarez’s vehicle dispatch system has a pool of PRUs that are able to communicate with the network to establish their location within the system. Specifically, Suarez’s wireless communication devices in each vehicle 14 of fleet 12 are the pool of PRUs. Ex-1017, 2:66-3:10. Suarez’s wireless communication devices

36 in each vehicle are the claimed PRUs because the devices are designed to be utilized by a consumer in a moving vehicle, rather than fixed in a single location, just as they are in the '726 Patent. Ex-1001, 5:17-19 (moving vehicle). Moreover, Suarez teaches that its wireless communication devices may use a pager or other portable device using cellular communications. Ex-1013, 3:31-39; *see also id.*, 2:14-17; Ex-1002 ¶¶183-184 (Suarez's devices would include e.g. portable cellular phones or pagers). Suarez's PRUs communicate with the network to establish location within the system, by, e.g., comparing the location parameter (Ex-1013, Abstract, 9:1-11) to the vehicle's current location (determined using GPS (Ex-1013, 8:11-13). Ex-1002 ¶185.

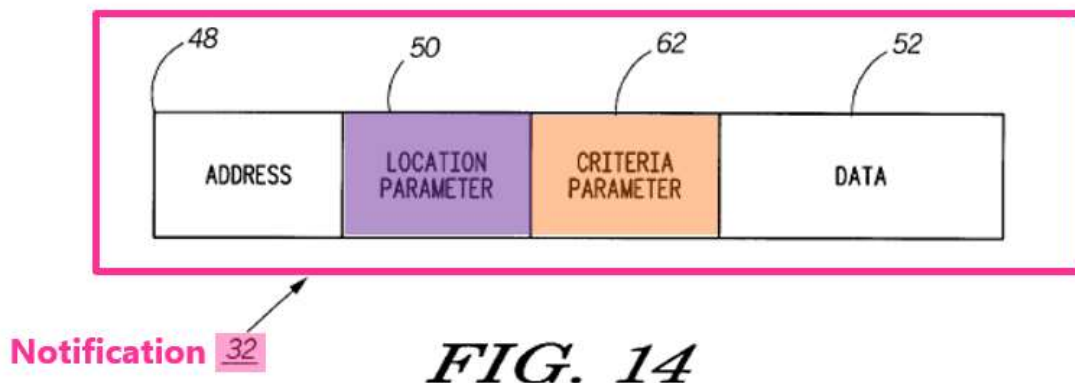
- (4) **Element 8[C]: ii) means for a wireless consumer to specify and forward to the network, geographic boundary information describing a region within a coverage area of said network where a notification should be sent to one or more of said portable mobile remote units within said region;**

Suarez-Mezhvinsky teaches the claimed "means" under the construction proposed above in Section X.A.1. *See* Ex-1001, 5:8-10 (input panel 25 taking user instruction), 8:59-67 (geographic information).

The Suarez-Mezhvinsky's input device contains the corresponding input panel structure. Ex-1002 ¶¶186-191. Suarez's input device 24 may be "a telephone or computer terminal" that uses "radio frequency (RF) channels, satellite links, or

Internet” (Ex-1013, 3:1-10) to submit the “request for dispatch.” Ex-1013, Abstract, 3:20-25. The input device thus “takes user instructions” just like the input panel in the ’726 Patent by allowing the user to submit the request for dispatch. Ex-1002 ¶187; Ex-1001, 5:8-10.

Suarez-Mezhvinsky’s input device performs the recited function of obtaining geographic information. Ex-1002 ¶188. The dispatch center receives a “request for dispatch” and sends an outbound assignment message 32 that includes location parameter 50 (purple) and criteria parameter 62 (orange). Ex-1013, 3:21-25. These collectively define the “geographic boundary information” of the region where the notification should be sent. Ex-1002 ¶188.



A POSITA would have found additional implementation details for Suarez’s request for dispatch obtaining geographic information “by latitude, longitude and radii information” in similar fleet management/dispatch systems, such as Mezhvinsky. Ex-1002 ¶189. Specifically, Mezhvinsky teaches a taxi dispatch

method in which a mobile user defines geographic boundary information describing a region within the service network. *Id.* Mezhvinsky provides that “the end user will preferably provide it’s [sic] geographical location to their own end user equipment.” Ex-1017, 10:5-22. The end user’s equipment, such as personal computers or personal digital assistants with web access (Ex-1017, 11:6-8, 13:22-26) displays the “actual area” around the user and allows the user to vary “the exact diameter of the area displayed.” Ex-1017, 10:5-22. The display uses Mezhvinsky’s “Web server” to find the “geographical location of one or more mobile service providers in the desired area displayed to the end user.” *Id.*, 10:20-23. Figure 2 is a display presented to a user in response to a user’s request for information. The “locality of chauffer services in a designated area” are shown “within a radius of 3kms of the geographical location of the end user.” Ex-1017, 13:28-14:2.

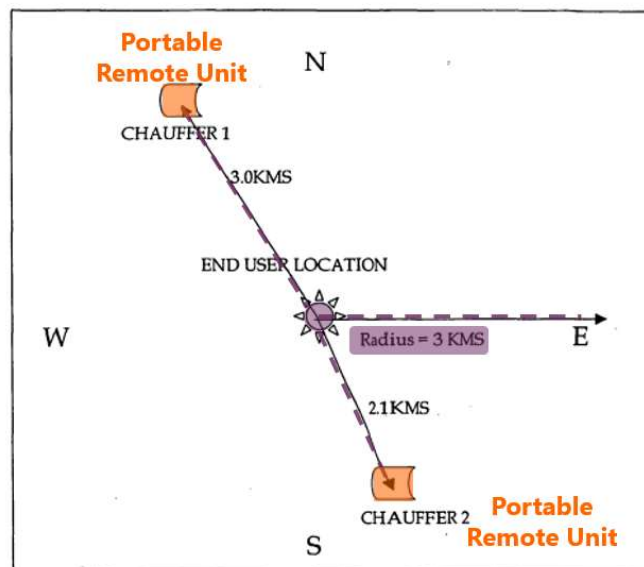


Fig. 2

Thus, Suarez-Mezhvinsky's input device corresponds to the '726 Patent's input panel 25 programmed to take user instructions (Ex-1001, 5:8-10) such as obtaining geographic information "by latitude, longitude and radii information." Ex-1001, 4:35-38. The Suarez-Mezhvinsky input device is a computer or phone terminal that accepts user input and allows the user to submit the "request for dispatch," including the details of the service request like the user's location and preferred search radius. Ex-1002 ¶190. These details would have been submitted to the system so that the dispatch center can further transmit the location parameter and criteria parameter to the wireless communication devices. *Id.*

The Suarez-Mezhvinsky input device allows the user to specify the search area, implementing Mezhvinsky's teaching that its end user provides their geographical location to their own end user equipment. A POSITA would have been motivated to allow the user to specify and forward the prescribed search area, including a central location and variable search radius to the network, as taught by Mezhvinsky, because doing so allows the end user to provide its geographical location "more accurate[ly] and quick[ly]." Ex-1017, 10:11-16. A POSITA would thus have implemented Suarez's input device 24 such that it would generate a "request for dispatch" that included the user's preferred location and preferred search radius around that location, as taught by Mezhvinsky. Ex-1002 ¶191. Therefore, the Suarez-Mezhvinsky input device is the claimed structure that would

allow the wireless consumer to specify and forward the geographic boundary (i.e., an area with the end-user-specified diameter surrounding their location). *Id.*

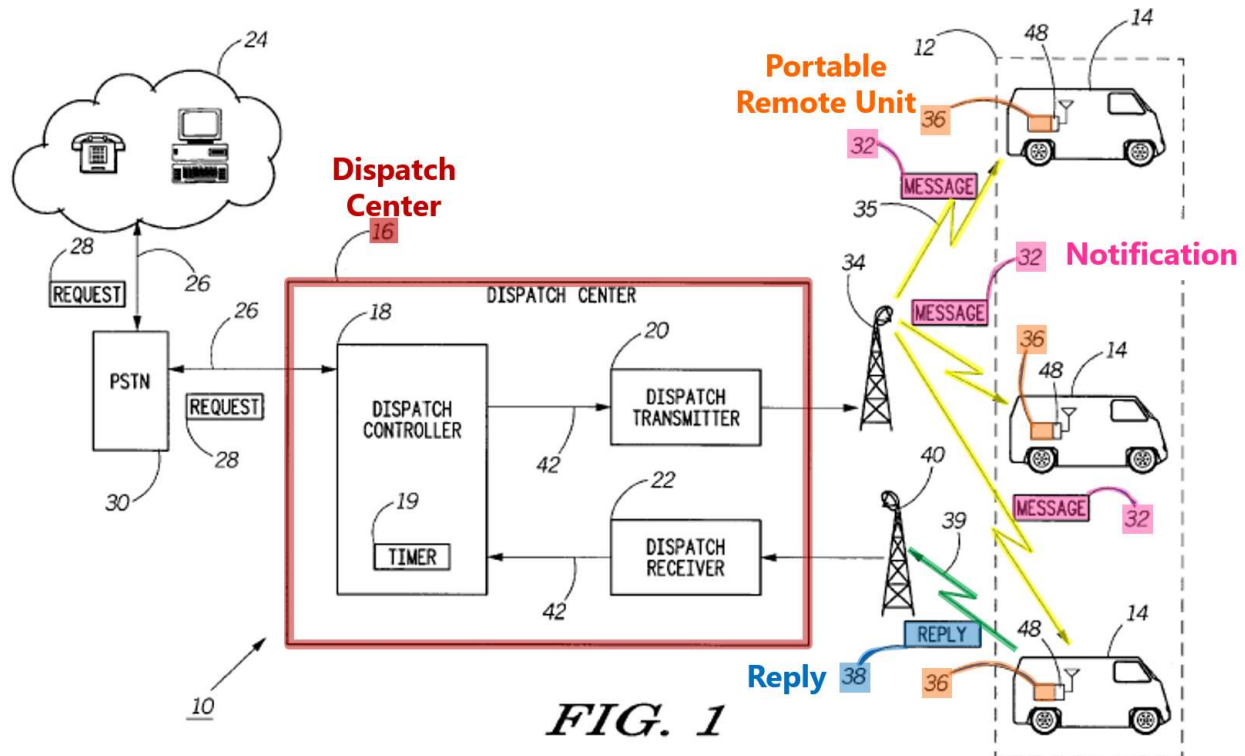
(5) Element 8[D]: iii) means to forward said notification to portable mobile remote units within said region;

Suarez-Mezhvinsky teaches the claimed “means” under the construction proposed above in Section X.A.2.

Suarez’s dispatch controller is the corresponding control unit/center structure. Ex-1002 ¶¶192-195. Suarez’s dispatch controller forwards a notification as assignment message 32 to the wireless communication devices within the region of the criteria parameter 62 (i.e., radius establishing a perimeter surrounding the assignment location) via dispatch transmitter 20. Ex-1002 ¶193; *see also* Ex-1013, 3:21-24 (transmission of assignment message 32); 5:36-40 (criteria parameter 62 as the perimeter). Dispatch controller 18 sends assignment message 32 using dispatch transmitter 20 and transmit antenna 34 over an outbound radio frequency (RF) channel. *Id.*, 3:27-31. The dispatch controller thus corresponds to the claimed control unit and assignment message 32 corresponds to the claimed notification.

Suarez’s dispatch controller performs the recited requesting function when it transmits the assignment message. Ex-1002 ¶194. Dispatch controller 18 transmits assignment message 32 (equivalent to a page, poll, or query) to the vehicles within the perimeter surrounding the assignment location. Assignment message 32 is a

page, poll, or query because it is a notification sent to the vehicles in the same way described by the '726 Patent. *See e.g.*, Ex-1001, 2:29-31 (page), 3:52-54 (poll), 3:39-41 (query). Suarez's assignment message thus corresponds to a page notification requesting the location of the communication targets. Ex-1002 ¶¶194-195.



- (6) **Element 8[E]:** iv) means to identify said notification (iii) at the portable mobile remote unit and means to verify whether the portable remote unit exists within said region (iii).

Suarez-Mezhvinsky teaches the claimed “means” under the construction proposed above in Section X.A.3. *See* Ex-1001, 4:64-5:1 (antenna), 4:64-5:6 (determination).

Assignment manager 58 of mobile device 36 corresponds to control unit structure programmed to perform the recited function. Ex-1002 ¶¶196-199. Specifically, each vehicles' wireless communication device 36 (Ex-1013, 3:31-32) includes antenna 44 for receiving signals from dispatch center 16 (*id.*, 3:56-64). Assignment manager 58 processes the received assignment messages. *Id.*, 4:9-12. Thus, the assignment manager is the control unit at the PRU that receives information via an antenna and makes the determination, just like the "control unit" in the '726 Patent. Ex-1002 ¶197.

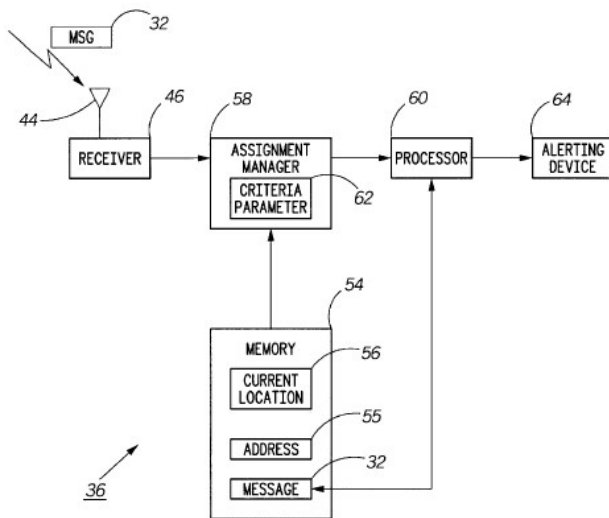


FIG. 2

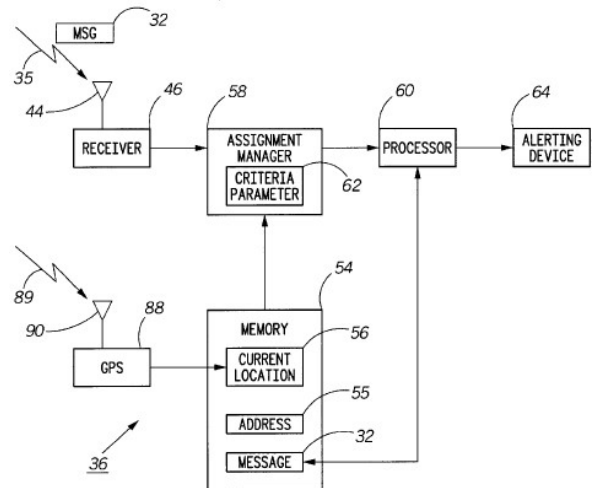


FIG. 9

Suarez's assignment manager performs the recited receiving and determining functions. Ex-1002 ¶198. Assignment manager 58 identifies and processes assignment message 32 (the claimed notification) to verify that the vehicle exists within said region. Ex-1013, 9:1-6. The recited function is performed by the

algorithm shown in Suarez's Figure 11. Upon receiving assignment message 32 (the claimed notification) in step 94 (pink), the wireless communication device checks for the location parameter 50 in the assignment message in step 96 (purple, *id.*, 8:56-64) and the assignment manager executes step 102 (green) to compare location parameter 50 to the vehicle's current location 56 using criteria parameter 62. *Id.*, 9:1-6.

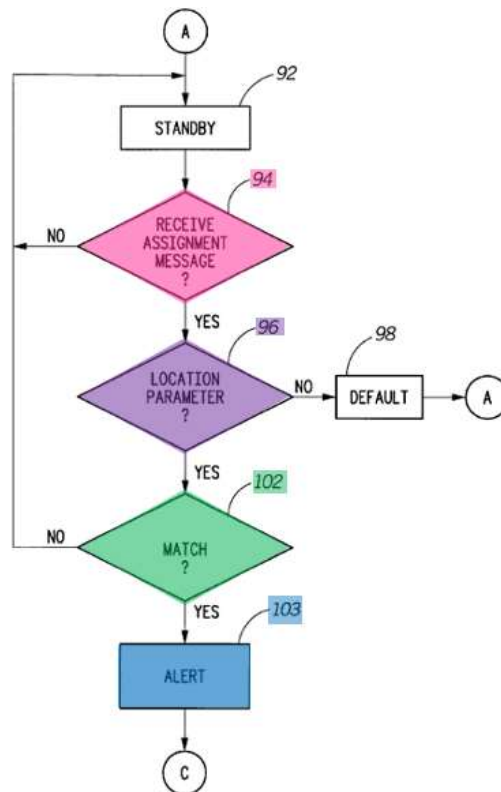


FIG. 11

Suarez's assignment manager 58 is thus the "control unit" that receives the portable remote unit information by the antenna/receiver 46 and determines if the unit is within consumer-specified geographic boundary. Ex-1002 ¶199.

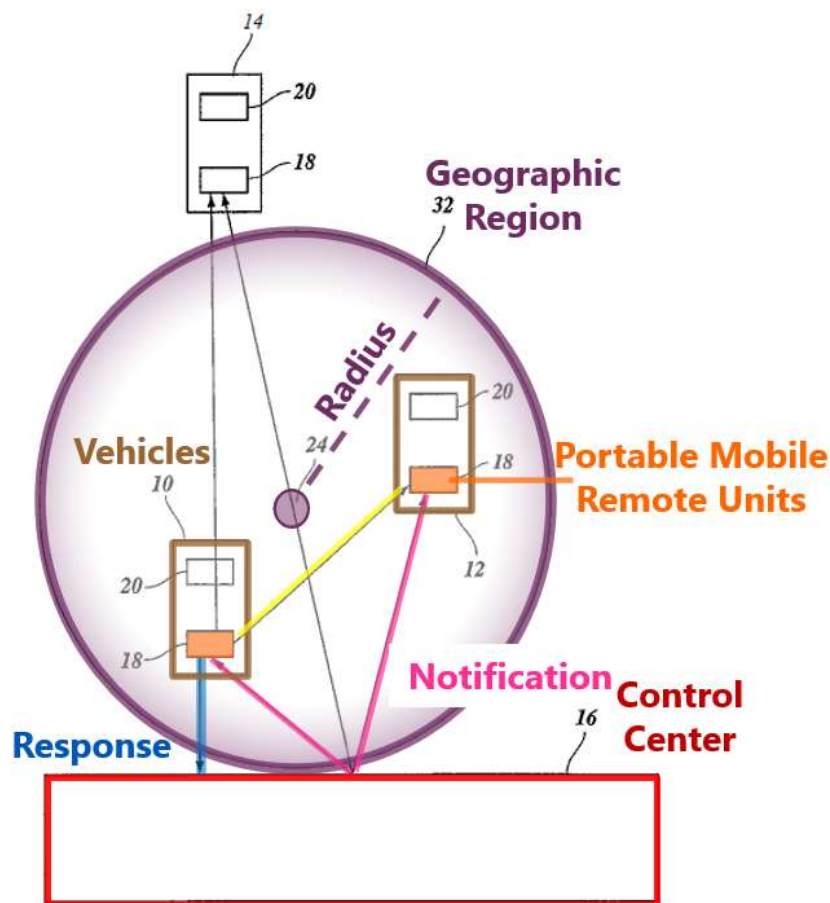
3. Ground 3: Claims 8, 12 and 13 are rendered obvious over Heedfeld

a. Independent Claim 12

(1) Element 12[pre]:

Heedfeld is a “[m]ethod for dispatching a fleet of mobile units” by a “control center” sending “coordinate data specifying a selected area [] to all of the units.” Ex-1018, Abstract. Each mobile unit (e.g., vehicle) includes “terminal device 18” “designed in the usual way to show messages sent by the control center 16 on a display” and also to “maintain[] [a] radio connection with the control center” in order to fulfill dispatch requests. *Id.*, 4:41-48. Heedfeld’s terminal devices 18 are the claimed PRUs because they are designed to be in a moving vehicle (Ex-1018, 4:39-40), rather than fixed to a single location, just as they are in the ’726 Patent. Ex-1001, 5:17-19 (moving vehicle); Ex-1002 ¶¶200-202.

Fig. 2



Control center 16 notifies the mobile units within a geographic region by wirelessly transmitting a request. Ex-1002 ¶202. Heedfeld's control center communicates "a request," including coordinate data, to the terminal devices within the fleet of vehicles. Ex-1018, 5:4-8. Control center 16 (red) sends⁹ the coordinate

⁹ A POSITA would have understood that Claim 12 does not necessarily require that the user of one of the portable mobile remote units define the geographic boundary information (which is required by Claim 8). However, as explained further in Element 8[C], below, Heedfeld teaches that control center 16 may be implemented

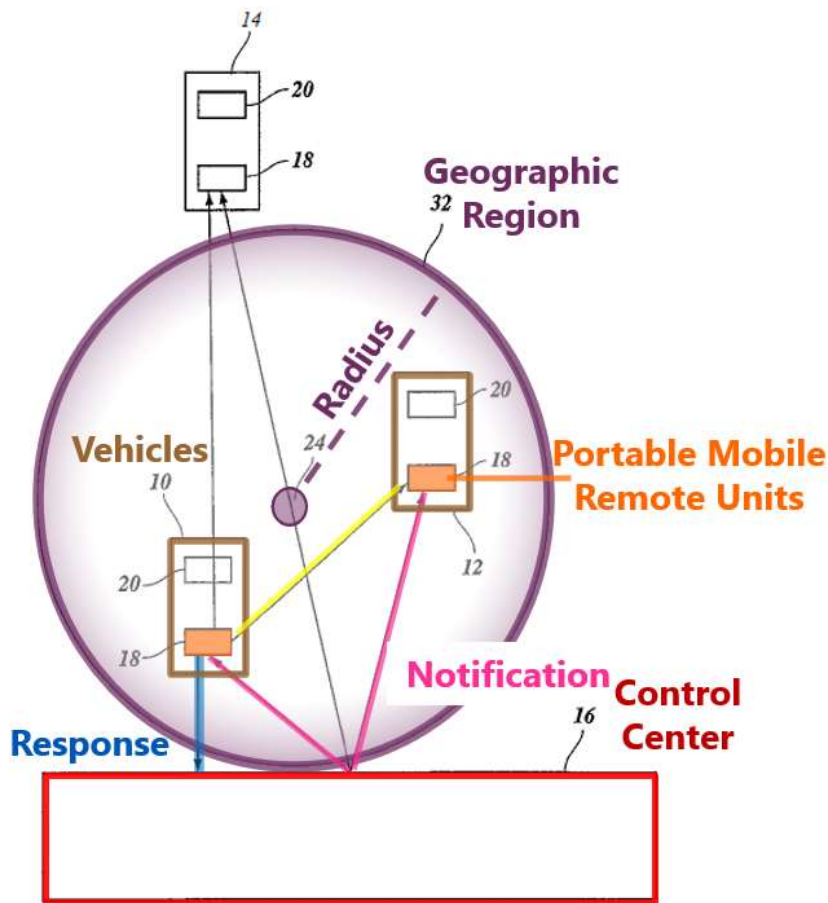
data to mobile units 10 and 12 (brown), within a selected area (purple) in the “immediate vicinity of the destination.” *Id.*, 2:21-26. This area may be defined by the coordinates of the target point and a radius around that point. *Id.*, 3:40-43. Area 32 is thus the claimed geographic region in which Heedfeld’s communication method notifies the PRUs. Ex-1002 ¶202.

(2) Element 12[A]:

Heedfeld’s control unit communicates “a request” that includes coordinate data to the terminal devices within the fleet of vehicles. Ex-1018, 5:4-8. Control center 16 communicates over a radio data network. Ex-1018, 2:20-29. The vehicles (10, 12, 14, brown) of the fleet make up a network of PRUs because each vehicle’s terminal device (orange) communicates with the other terminal devices 18 (yellow) and with dispatch center 16 (red) over a radio connection. Ex-1018, 6:1-4.

on a user’s terminal device 18. Ex-1018, 5:54-57 (“the terminals 18 of the vehicles can be designed in such a way that they can take over the function of the control center 16 if necessary”). Thus, to the extent that Claim 12 is understood more narrowly as requiring that the user define the boundary information, Heedfeld includes this narrow teaching and Claim 12 is taught for the same reasons that Heedfeld teaches the comparable requirements of Claim 8.

Fig. 2



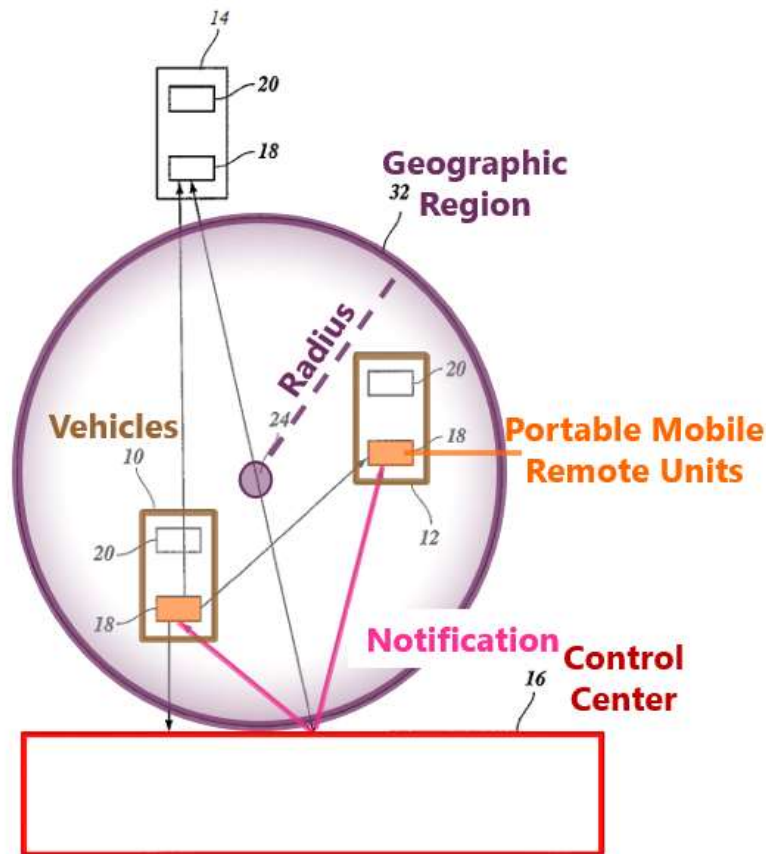
Heedfeld's request is communicated to terminal device 18 of each mobile unit to establish its geographic location within the system. Ex-1002 ¶¶203-204. Terminal device 18 "automatically compares its own position with the coordinate data" to determine whether or not the vehicle is located within the selected area. Ex-1018, 2:15-32.

(3) Element 12[B]:

Heedfeld specifies and forwards the geographic boundary information describing a region that the network should send a notification to one or more PRUs.

Specifically, Heedfeld's control center 16 operator defines the selected area in the vicinity of the destination 24. Ex-1018, 4:58-65. Heedfeld explains that the selected search region can be a rectangular region specified "by the coordinates of two points that form two diagonally opposite corner" or circular area with a specified radius around a target point. Ex-1018, 3:37-61. The operator specifies and forwards the geographic boundary information to the network by defining the selected area (purple) through the control center 16 (red). Ex-1002 ¶¶205-207.

Fig. 2



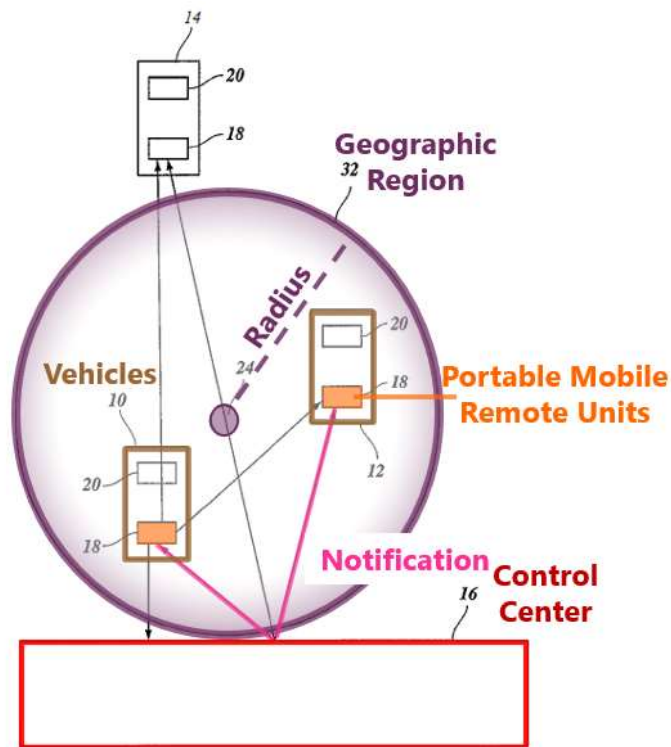
Moreover, control center 16 forwards coordinate data specifying a selected area when sending “a request” to the vehicles in the fleet. Ex-1018, 5:4-8. Control center 16 transmits coordinate information in its request to terminal devices in the network by, for example, “indicating the coordinates of the target location 24 and the radius of the circle.” *Id.*, 6:1-13. This is the same “geographic boundary information” envisioned by the ’726 Patent. Ex-1001, 7:39-40 (the geographic boundary in Figure 3 “is defined by radius R and its latitude and longitude information”).

To be clear, Heedfeld satisfies this claim element in at least two ways. Ex-1002 ¶207. First, the user of control center 16 will “specify[] and forward[] to the network, geographic boundary information describing a region within a coverage area of said network” when the user uses its device to input its request. Second, “control center 16” itself will “specify[] and forward[] to the network, geographic boundary information describing a region within a coverage area of said network” when it generates the electronic request that will later be sent to the network of portable remote units that may accept the assignment. Since control center 16 communicates over the network, software in control center 16 receives and generates the request, and then forwards the request to its own internal network communication hardware, for further communication with other networked devices.

(4) Element 12[C]:

Control center 16 forwards the request with the coordinate data (the claimed notification) to the terminal devices within the fleet of vehicles (the claimed PRUs). Ex-1018, 2:14-15. Vehicles (10, 12) within the geographic region (purple) receive the notification (pink) from the mobile unit acting as control center 16 (red).¹⁰ Ex-1002 ¶208.

Fig. 2



¹⁰ A POSITA would have understood that Element 12[C] does not require that the notification is forwarded to the PRUs only within said region and specifically exclude also sending messages to units that may be outside the region, otherwise Element 12[D]’s step of verifying whether the PRUs exists within said region would be unnecessary.

(5) Element 12[D]:

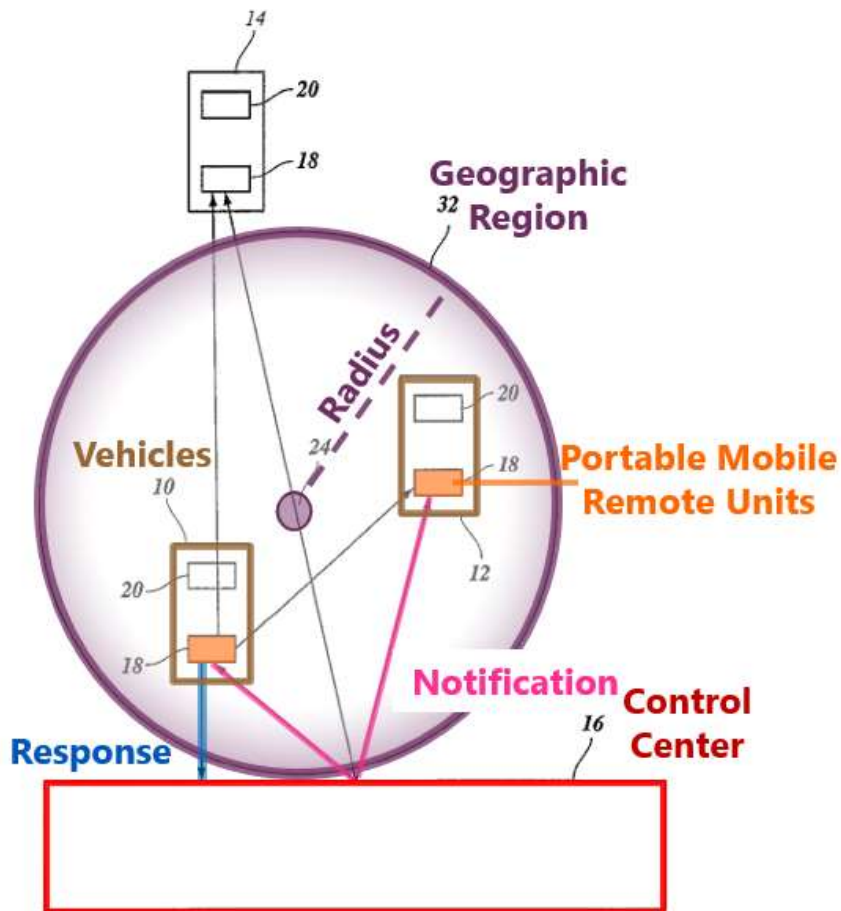
Heedfeld's PRU identifies the notification and verifies that the unit is within the region. The terminal device in each vehicle receives the request and, in response, "checks whether the vehicle is located within the selected area." Ex-1018, 5:4-11; *see also id.*, 6:7-18 (calculating whether the vehicle's distance is "greater than the specified radius"). Upon verifying that the vehicle is located within the selected geographic region, terminal 18 reports the current vehicle position to control center 16 via the radio data network. *Id.*, 5:16-21.

b. Dependent Claim 13

(1) Claim 13:

When terminal device 18 is in the selected geographic area, it responds by sending "a message" (blue) to the control center 16. Ex-1018, 6:15-18. The response message includes the vehicle's current position. *Id.*, 5:16-21. A vehicle only reports its position if it falls within the prescribed geographic boundary, so that the control center only receives position data from a small number of nearby vehicles and the network is not unnecessarily overloaded. *Id.*, 2:31-38; Ex-1002 ¶210.

Fig. 2



c. Independent Claim 8

**(1) Element 8

```
:
```**

Heedfeld's communication system includes a "control center" that sends "coordinate data specifying a selected area" to a "fleet of mobile units." Ex-1018, Abstract. Each mobile unit (e.g., vehicle) includes "terminal device 18" "designed in the usual way to show messages sent by the control center 16 on a display" and "maintain[] [a] radio connection with the control center" in order to fulfill dispatch requests. *Id.*, 4:41-48; Ex-1002 ¶211.

(2) Element 8[A]:

Heedfeld includes a network of communication resources. Specifically, control center 16 communicates over a radio data network. Ex-1018, 2:20-29. As shown in Figures 2 and 2', the vehicles (10, 12, 14, brown) of the fleet make up a network of PRUs because each vehicle's terminal device (orange) communicates with the other terminal devices 18 (yellow) and with control center 16 (blue), which can itself be another terminal unit 18 (shown as 18'). Ex-1018, 5:54-57 ("the terminals 18 of the vehicles can be designed in such a way that they can take over the function of the control center 16 if necessary"); Ex-1002 ¶212. Heedfeld's terminal devices 18 in each vehicle (10, 12, 14) are collectively a network of communication resources because they communicate with each other and the control center over a radio network. Ex-1002 ¶213.

Fig. 2

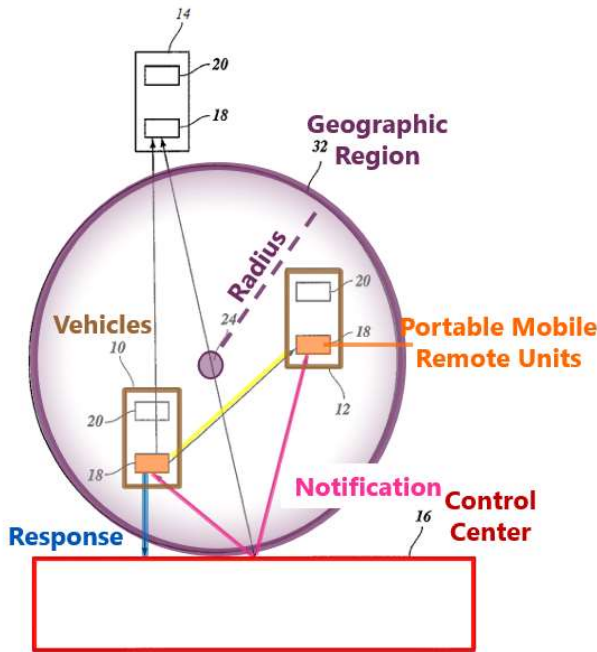
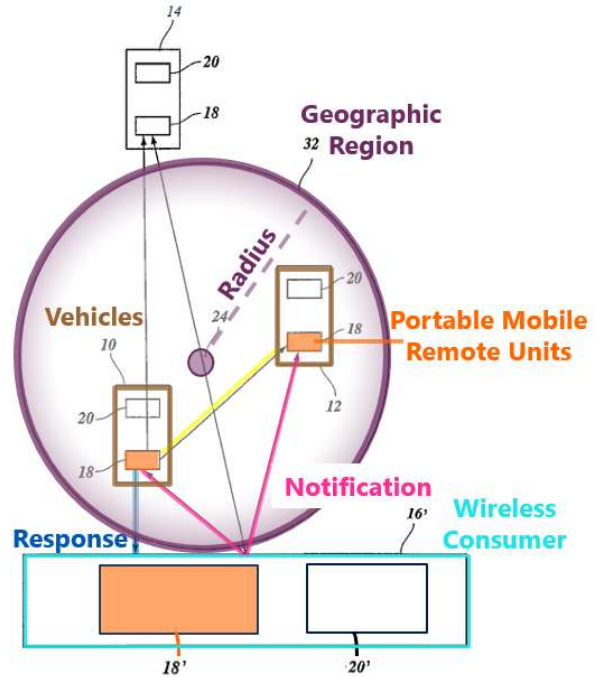


Fig. 2'



(3) Element 8[B]:

Heedfeld's vehicle dispatch system has a pool of PRUs that communicate with the network to establish location within the system. Heedfeld's control center communicates "a request" that includes coordinate data to the terminal devices within the fleet of vehicles (Ex-1018, 5:4-8) over a radio data network. Ex-1018, 2:20-29. As shown in Figures 2 and 2', the vehicles (10, 12, brown) of the fleet are a pool of PRUs because each vehicle's terminal device (orange) communicates (yellow) with the other terminal devices 18 and with control center 16 (blue). Heedfeld's PRUs thus communicate with the network to establish location within the system. Ex-1002 ¶214.

(4) Element 8[C]:

Heedfeld teaches the claimed “means” under the construction proposed above in Section X.A.1.

Heedfeld’s terminal devices include structure corresponding to the claimed input panel. Ex-1002 ¶¶215-217. Heedfeld explains that control center 16 can “be a mobile unit itself” because terminal 18 is designed to take over the function of control center 16. Ex-1018, 5:54-57. Terminal 18 is designed to “show messages” to a user on a display. *Id.*, 4:41-48. Moreover, Heedfeld explains that the control center operator defines the selected area in the vicinity of destination point 24. Ex-1018, 4:58-65. A POSITA would have understood that, when terminal 18’ is being used as control center 16 (Figure 2’), terminal 18’ is programmed to display and take the operator’s instructions for defining the user’s desired service area. Ex-1002 ¶216.

Fig. 2

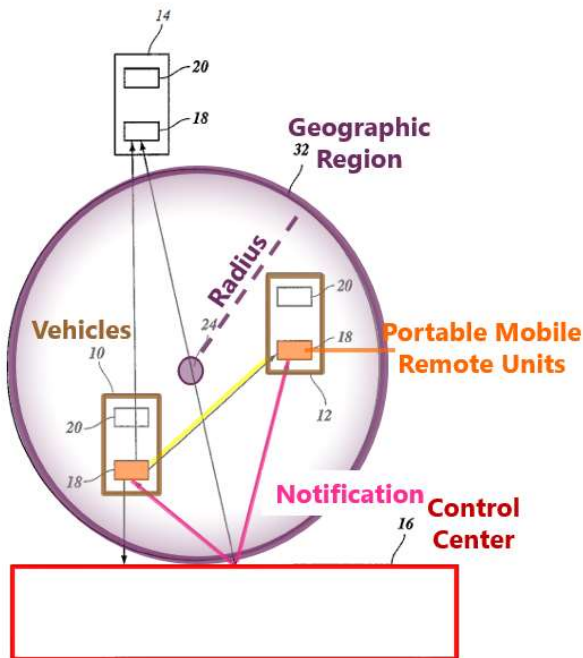
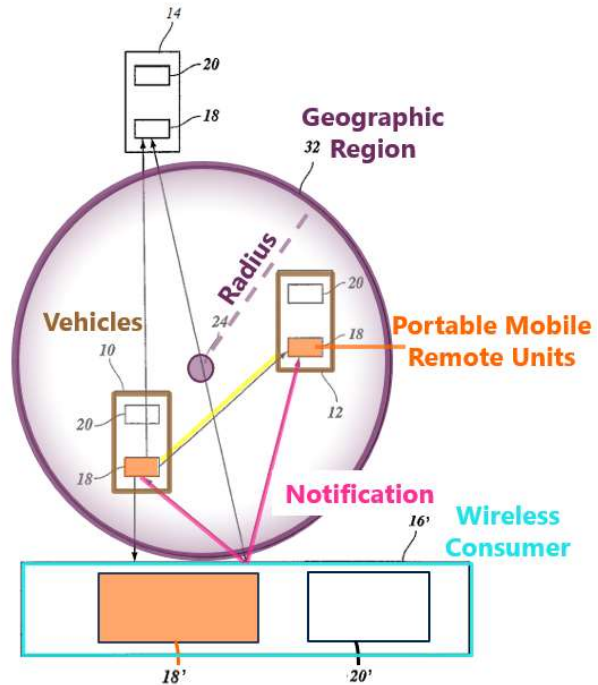


Fig. 2'



Heedfeld's terminal device's display performs the recited function when functioning as the control center (16', teal). Ex-1002 ¶217. In this configuration, the driver/user of terminal device 18' specifies the search region sent to the other mobile units. Ex-1002 ¶217 (citing Ex-1018, 4:58-65). Upon specifying the search region, the terminal device functioning as the control center 16 (16', teal) sends "a request" (pink) to the vehicles in the selected region (purple). Ex-1018, 5:4-8. Heedfeld's request (the claimed notification) includes the latitude and latitude of the target point and a radius around it. Ex-1002 ¶217.

(5) Element 8[D]:

Heedfeld teaches the claimed "means" under the construction proposed above in Section X.A.2.

Heedfeld's mobile unit functioning as the control center 16 contains the corresponding control unit/center structure. Ex-1002 ¶¶218-220. As shown in Figure 2' below, Heedfeld's mobile unit functioning as control center 16 (teal) forwards a request with the coordinate data (pink, the claimed notification) to the terminal devices within the fleet of vehicles (orange, the claimed PRUs). Ex-1018, 2:14-15. A POSITA would have understood that the mobile unit acting as the control center includes a control unit programmed to request the location of the terminal devices because the terminal devices are designed to send (Ex-1018, 2:31-44) and receive messages over a radio data network (Ex-1018, 2:20-29) using an antenna and a transceiver circuitry. Ex-1002 ¶219.

Fig. 2

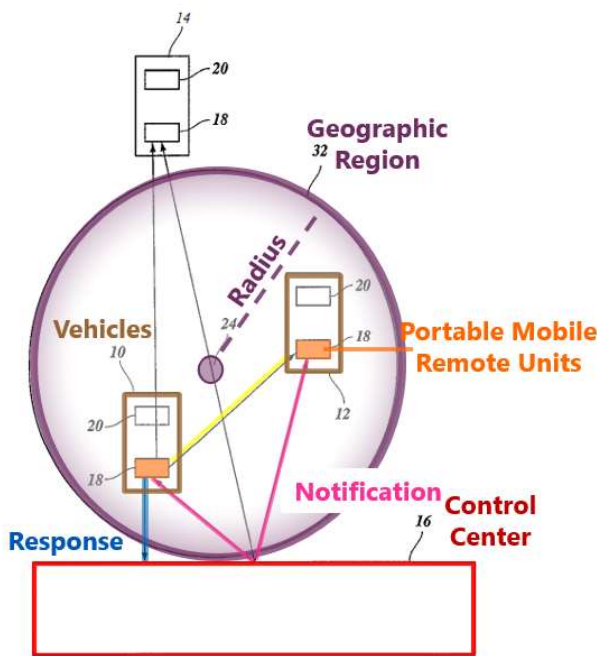
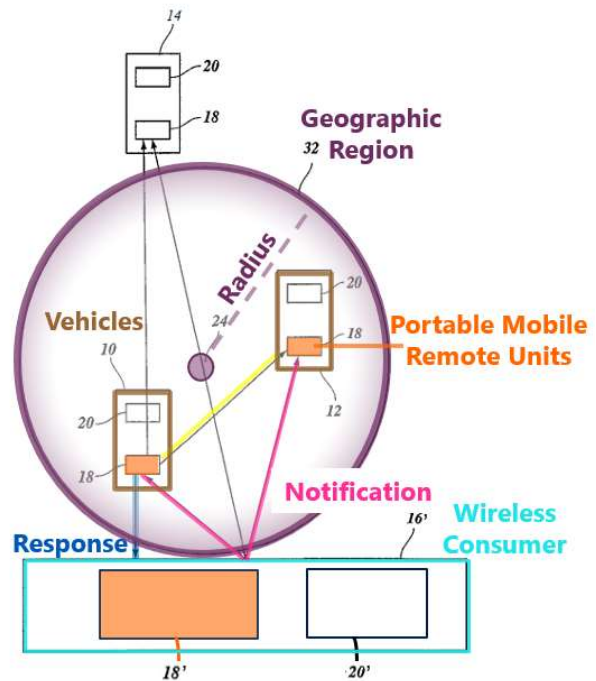


Fig. 2'



Heedfeld's mobile unit control center performs the recited function by sending a request to the mobile units in the search region. Heedfeld's request sent to the mobile unit's terminal device 18 (pink) is a page, poll, or query because it is a notification that the terminal devices should respond with "a message" that includes the vehicle's current vehicle position. Ex-1018, 5:16-21. Heedfeld's request is sent to the terminal devices of the fleet and only the terminal devices within the selected area report their position to the control center (Ex-1018, 2:31-38). Ex-1002 ¶220.

(6) Element 8[E]:

Heedfeld teaches the claimed "means" under the construction proposed above in Section X.A.3.

Heedfeld's mobile unit's terminal device 18 (orange) contains the corresponding control unit structure. Ex-1002 ¶¶221-224. Each mobile unit's terminal device is a "radio data terminal" that maintains radio connection with the control center. Ex-1018, 4:38-46. The mobile unit's terminal device 18 is the control unit at the PRU that receives information via an antenna and verifies the unit's location, just like the "control unit" in the '726 Patent. Ex-1002 ¶222.

Heedfeld's mobile unit's terminal device 18 performs the recited receiving and determining functions. Ex-1002 ¶223. Heedfeld's mobile unit terminal receives control center's request via a radio data network. Ex-1018, 5:4-8. The terminal device in each vehicle receives the request and performs the recited verification

function by “check[ing] whether the vehicle is located within the selected area.” Ex-1018, 5:4-11; *see also id.*, 6:7-18 (calculating whether the vehicle’s distance is “greater than the specified radius”). Upon verifying that the vehicle is within the selected geographic region, terminal 18 reports the vehicle’s current position to control center 16. *Id.*, 5:16-21. Thus, the terminal device is the control unit that verifies that the portable remote unit exists within the search region. Ex-1002 ¶224.

Fig. 2

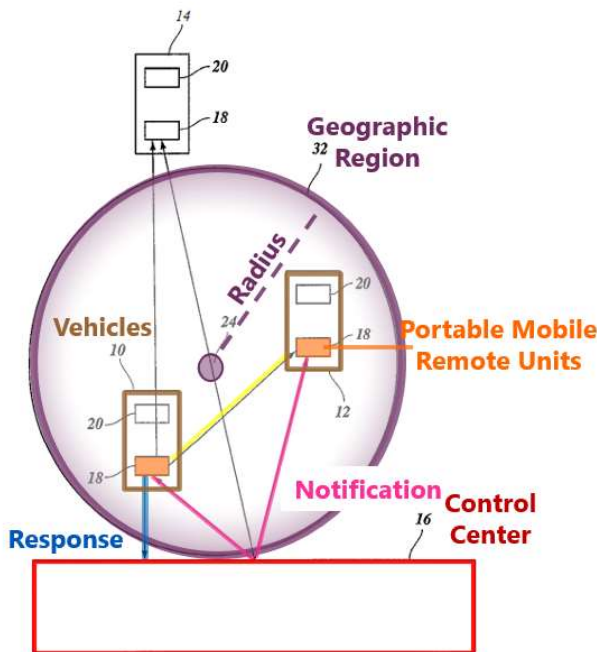
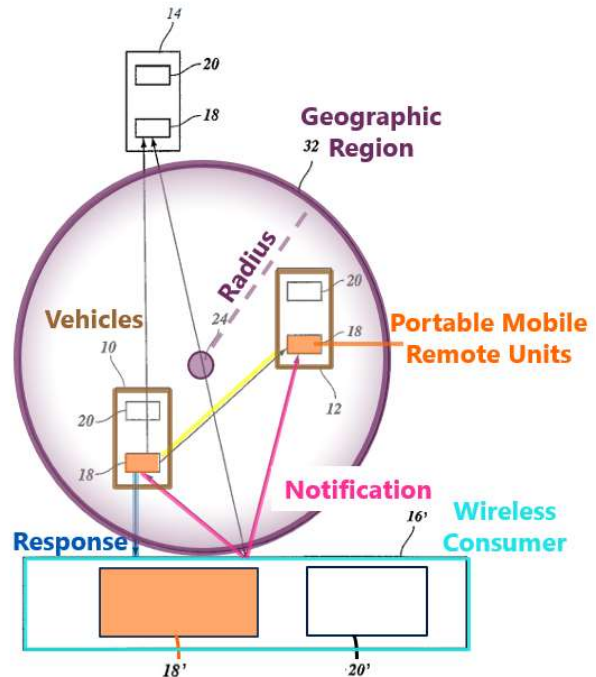


Fig. 2'

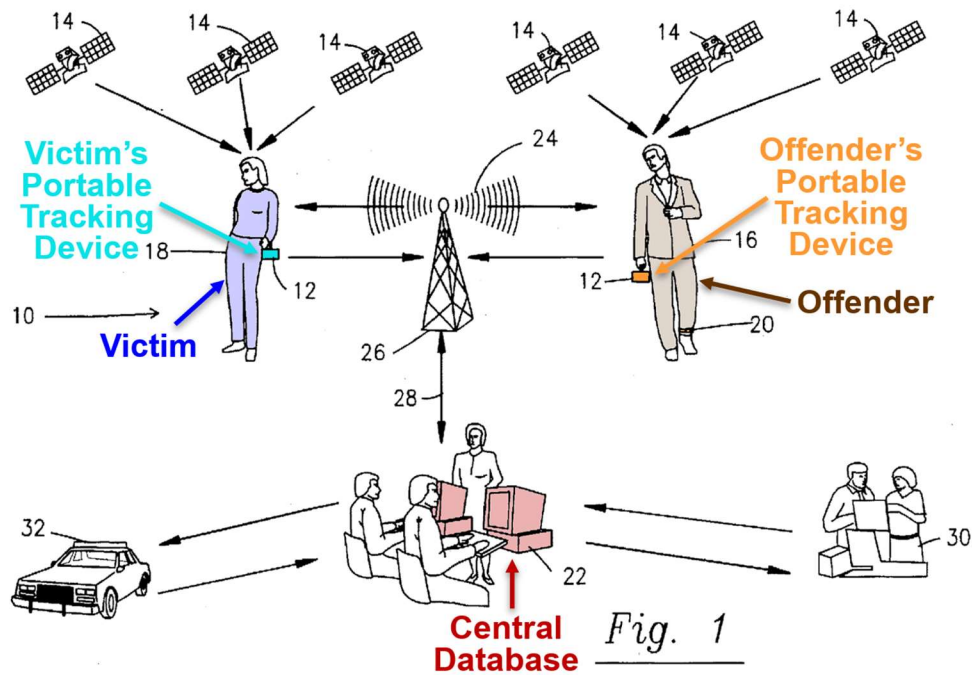


B. Proximity Alert Claims

1. Ground 4: Claim 1 is rendered obvious over Layson’757 in view of Layson’213 in view of IllinoisLaw

- a. A POSITA would have been motivated to combine Layson’757-Layson’213-IllinoisLaw and had a reasonable expectation of success**

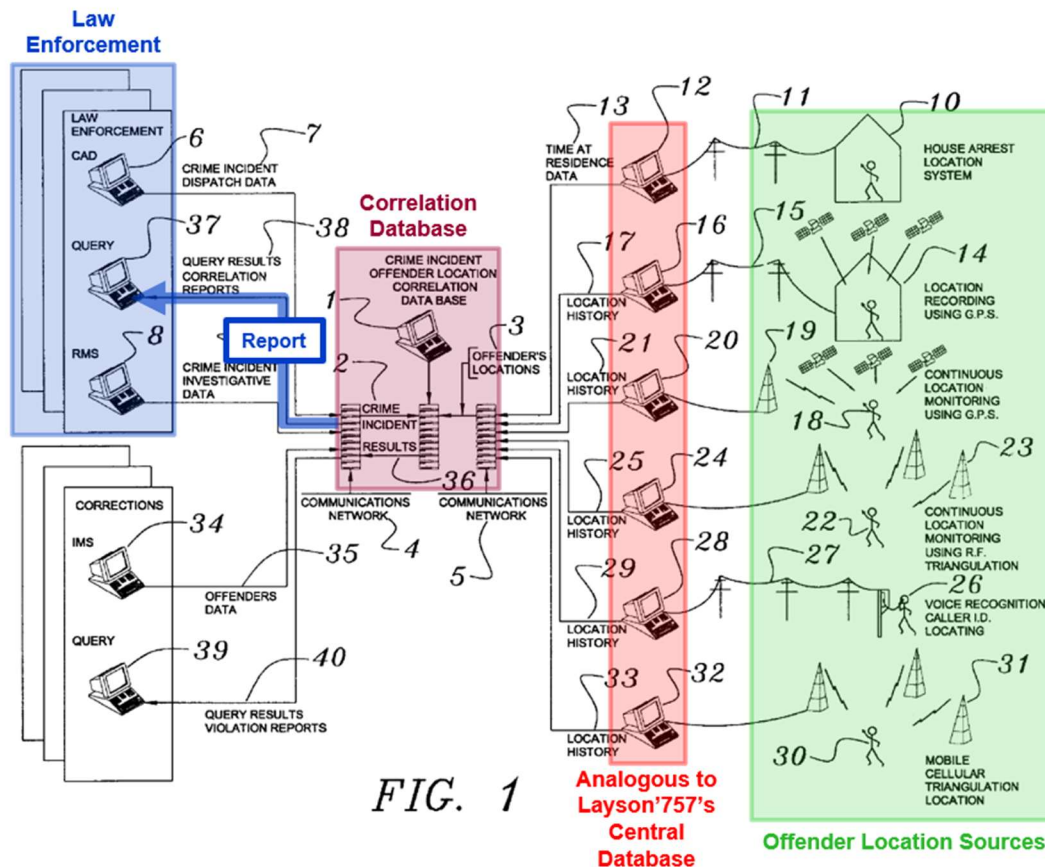
Layson’757 in combination with Layson’213: Layson’757 discloses “a portable locator or tracking apparatus ... for continuous location determination of subjects.” Ex-1007, Abstract; Ex-1002 ¶¶225-233. Specifically, Layson’757 teaches tracking offenders 16 and corresponding victims 18, by assigning a portable tracking device 12 to each, shown below. Ex-1007, 2:46-49. These devices communicate with other networked devices, such as “central data-base system 22” (*id.*, 3:9-12), “to provide advance offender violation warning for victims beyond the confines of the victim’s home.” Ex-1007, 1:13-15.



Each portable tracking device receives, from the central database 22, “schedule rules and location constraints,” against which it compares its location. Ex-1007, 3:9-13, 7:3-5 (same). If the location is in violation of those rules/constraints (e.g., if offender 16 is located within a “buffer area” around victim 18), the device notifies the central database of the violation. *Id.*, 9:41-50. Otherwise, the device stores the current location for upload to the central database at the next scheduled time. *Id.*, 7:5-10.

Layson’213 describes how a “correlation database” receives offender location data (Ex-1008, 8:28-32), such as provided by Layson’757, and generates “electronic or hardcopy reports” (Ex-1008, 19:40) for “law enforcement and/or corrections/community supervision agency(s),” either automatically (Ex-1008,

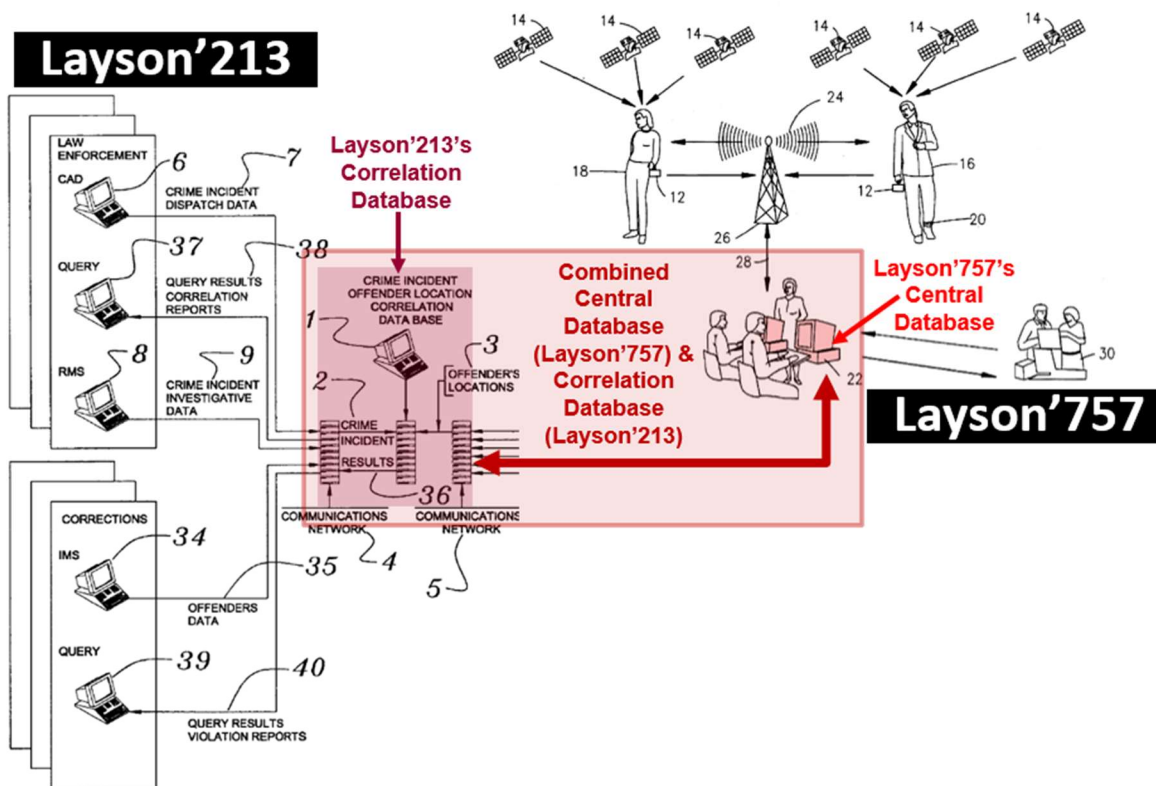
19:41-60), or in response to “structured queries” (Ex-1008, 20:28-30), as illustrated below in Figure 1.



Notably, Layson’213 relates to the same subject matter—offender tracking—as Layson’757, and lists the same inventor—Hoyt M. Layson, Jr.—as Layson’757. Ex-1007, [75], 1:7-13. A POSITA seeking to implement Layson’757’s system would thus have been motivated to incorporate the teachings of Layson’213’s complementary system for implementation details on Layson’757’s capability to “build reports.” Ex-1002 ¶¶226-230. In particular, a POSITA would have been motivated to implement Layson’757’s central database to work with Layson’213’s

corresponding teachings of its correlation database and real-time reporting of violations to law enforcement. Ex-1002 ¶231.

In the combined system, the locations of portable tracking device holders would have been generated and provided by the infrastructure depicted in Layson'757 Figure 1. The reporting and correlating actions would have been performed by the infrastructure depicted in Layson'213 Figure 1. Ex-1002 ¶232.



A POSITA would have had a reasonable expectation of success in implementing this combined system (“Layson’757-Layson’213”) because both Layson’213’s correlation database and Layson’757’s central database are configured to operate on the same type of offender location data. Ex-1002 ¶¶232-

233. Indeed, Layson'213 explicitly identifies Layson'757 as “determining the location of a person or subject, such as an offender ... outside the confines of their respective residence,” and incorporates Layson'757's disclosure by reference. Ex-1008, 2:26-30. Thus, the references themselves teach and suggest this combination.

Layson'757 explains that its central database system may notify or report a violation of a victim's buffer zone to “corrections, law enforcement and victims based on the nature of the offender's violation” according to “guidelines in the schedule rules for each offender.” Ex-1007, 9:50-54; *see also* Ex-1007, 3:3-8. Layson'213 teaches determining whether an offender has violated an “exclusion zone” (e.g., a location from which the offender is banned according to a court order, such as Layson'757's “buffer zone”) based on the offender's presence in that zone for at least a “loiter time,” in contrast to merely passing through (e.g., a “pedophile driving by a school on the way to work”). Ex-1008, 23:33-36. Layson'213's use of a loiter time helps to ensure that the offender's presence within the exclusion zone is reported as a violation when it is intentional, as opposed to temporary and inadvertent.

Layson'757-Layson'213 in view of IllinoisLaw:

As explained above, in the combined Layson'757-Layson'213 system, the reporting and correlating actions of Layson'213's correlation database (Ex-1008,

19:41-20:27) would be performed on the locations of Layson’757’s portable tracking devices received at Layson’757’s central location (Ex-1007, 7:9-19).

Layson’213 teaches providing the correlation database with multiple crime incidents, and “correlating [those] crime incidents with offender(s) locations” (Ex-1008, 21:37-39), to generate a table reporting “suspect offenders” (Ex-1008, 21:61-64). One such crime is stalking. Ex-1002 ¶¶234-247.

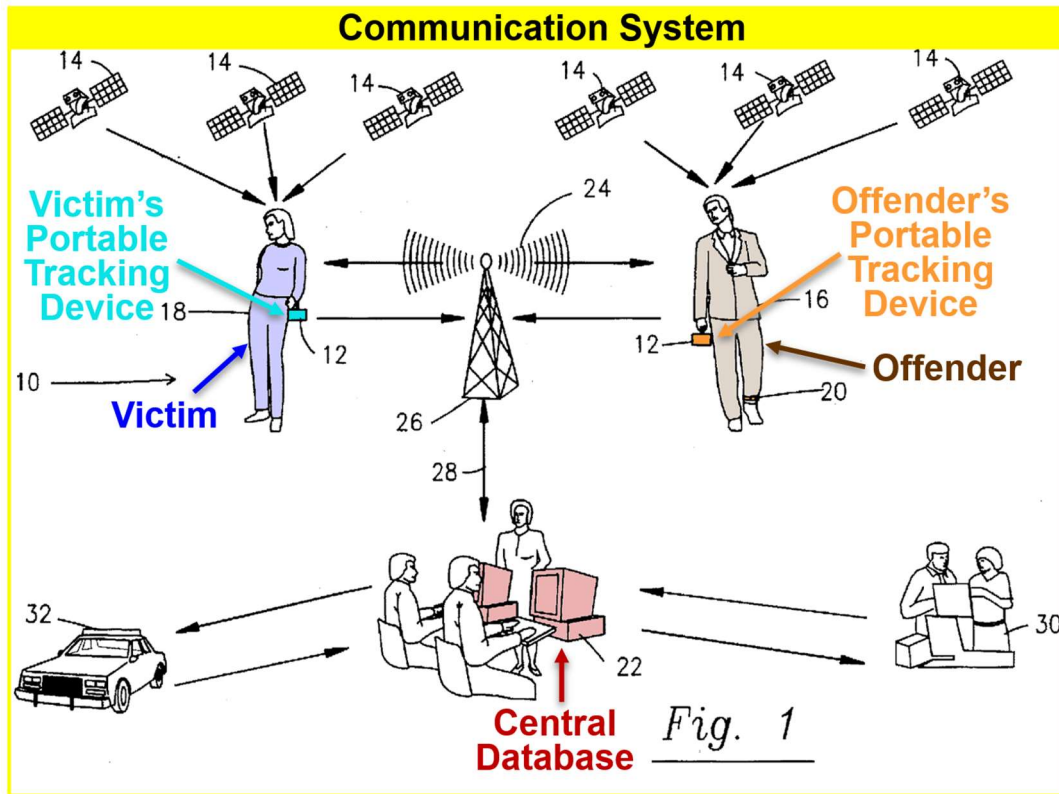
In addressing this crime of stalking, a POSITA would have been motivated to implement a system that identifies potential stalking incidents using the legal definition of the crime. Ex-1002 ¶¶234-237. For example, IllinoisLaw provides Illinois’s definition of “stalking.” Ex-1010. IllinoisLaw teaches that the crime of stalking may be characterized by the stalker “mov[ing] in relative proximity to a person as that person moves from place to place.” Ex-1010. A POSITA seeking to use Layson’757-Layson’213’s system to address the crime of stalking would thus have been motivated to design a system that would identify potential stalking scenarios where a stalker “move[s] in relative proximity to a person as that person moves from place to place.” *Id.* A POSITA would have understood that following a person as they moved “from place to place” would correspond to following that person for at least longer than an incidental distance (e.g., from home to work), because following for a *short* distance might be accidental and innocent. Ex-1002 ¶¶238-239 (citing Ex-1017 (characterizing stalking as involving following over “a

prolonged distance”)). In the combined Layson’757-Layson’213-IllinoisLaw system, the locations and corresponding times of a potential stalking victim would be used as the “multiple crime incidents” provided in a query of Layson’213’s correlation database (as described above), to identify offenders located within a buffer distance around the victim’s locations at approximately the same times. Ex-1002 ¶¶240-246. In order to limit false positives, the list would be filtered to identify those offenders whose locations correlated with those of the victim as the victim traveled at least a minimum distance “from place to place,” as taught by IllinoisLaw, in addition to Layson’s “loiter time.” Ex-1002 ¶¶246-247.

b. Independent Claim 1

(1) Element 1[pre]: A communication system comprising:

Layson’757 discloses communication “system 10” below, which includes “a portable tracking device 12” for each “subject (offender 16 or victim 18)” (Ex-1007, 2:46-49) connected with “central data-base system 22” (Ex-1007, 3:9-12) via “network cell site 26” (Ex-1007, 2:65-3:2). Ex-1002 ¶¶248-251.



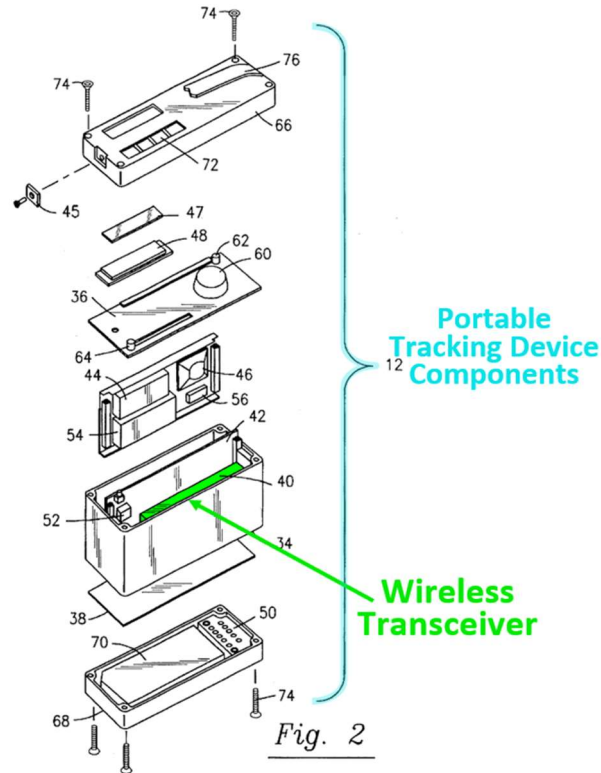
(2) Element 1[A]: (i) a portable mobile remote unit;

Layson'757's offender portable tracking device corresponds to the claimed "portable mobile remote unit," because it obtains and transmits position information to the central location as the monitored person moves about (Ex-1007, 1:62-66, 7:66-8:5 (similar)). Ex-1002 ¶¶252-254.

(3) Element 1[B]: (ii) a network of communication units;

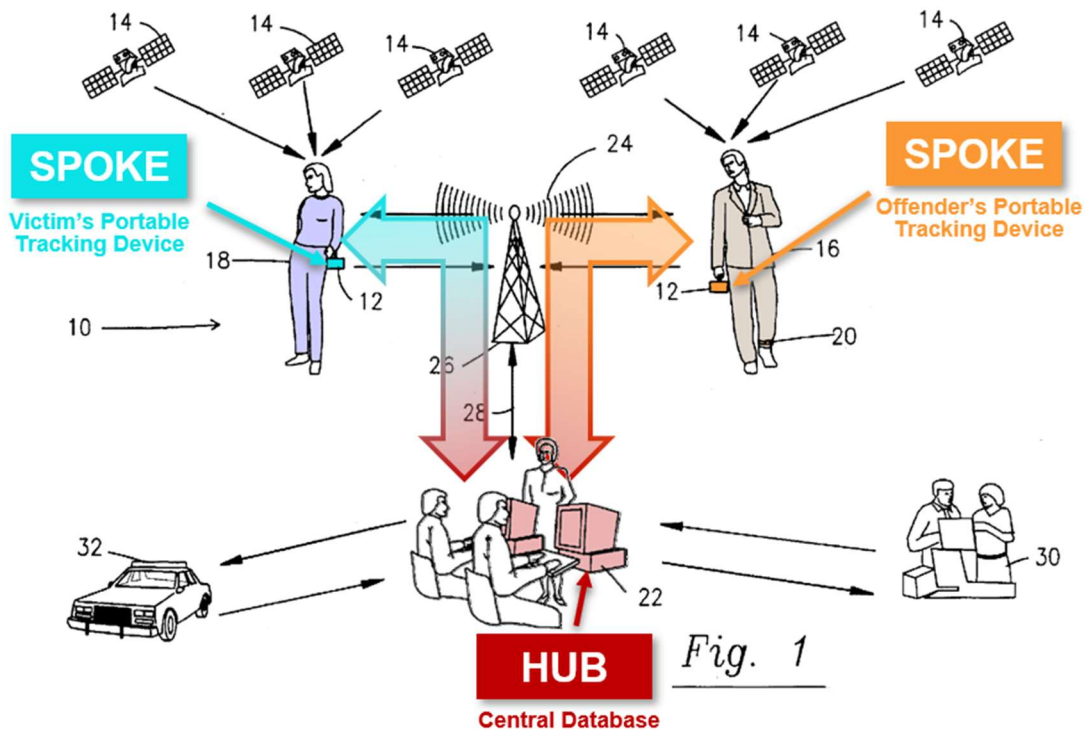
Each of Layson'757's portable tracking devices is a "communication unit" because it is capable of sending and receiving communications. *See, e.g.*, Ex-1007, 3:3-4 (sending), 3:9-12 (receiving); Ex-1002 ¶¶255-259. Such communication is enabled through a "wireless transceiver 40 [that] provides two-way data and voice

communications between the portable tracking device 12 and the central data-base system 22.” Ex-1007, 3:36-38.



Layson’757’s system includes multiple portable tracking devices. Ex-1007, 2:46-49, 7:35-38 (“... processing for **the multiple portable tracking apparatus** in real-time.”).

Layson’757’s central database system is also a communication unit, because it sends and receives communications “via the wireless communication link 24.” Ex-1007, 3:3-11. Together with the central database system, Layson’757’s portable tracking devices form “a network of communication units,” because each device is communicatively connected to the central database system, as shown below.

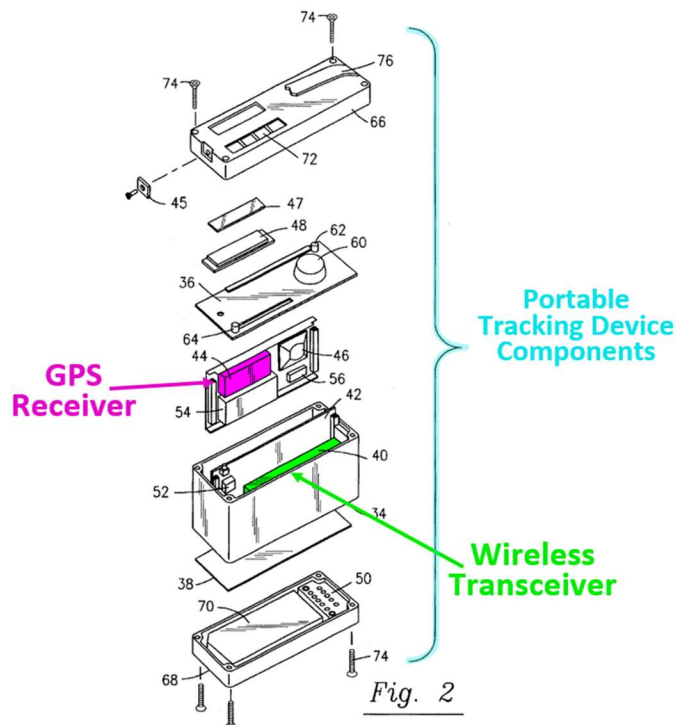


In particular, a POSITA would have recognized this configuration—i.e., a set of devices configured to communicate with a central control location—as corresponding to a “hub-and-spoke” communication network. Ex-1002 ¶¶258-259; Exs-1049,-1050.

Layson’757’s also discloses that additional signal transmitters are part of and used by its network, including “a global positioning system satellite constellation” that communicates signals from which the portable tracking device determines its position. Ex-1007, Cl. 16.

- (4) **Element 1[C]: (iii) the portable mobile remote unit able to communicate with at least a transmitter within the network to establish its geographic location within the system;**

Layson'757's "global positioning system satellite constellation" (Ex-1007, Cl. 16) is part of and used by the network of communication units that includes Layson'757's portable tracking devices. Each of these devices is in communication with one or more GPS satellites, and uses received signals communicated from the satellites to establish its geographic location within the system. As Layson'757 explains, each portable tracking device includes "GPS receiver 44," that "receives communication signals from a global position satellite (GPS) 14 to determine the location of the subject (offender 16 or victim 18)." Ex-1007, 2:46-49.



GPS 14 sends the communication signals received by each of Layson'757's portable tracking devices using a transmitter on the satellite. Ex-1002 ¶¶260-262.

- (5) **Element 1[D]: (iv) means to request for the location information of portable mobile remote units that are in a geographic boundary that is prescribed within the coverage area of said network;**

Layson'757-Layson'213-IllinoisLaw teaches the claimed “means” under the construction proposed in Section X.B.1. Ex-1002 ¶¶263-281.

Control unit/center: Layson'757's “central data-base system” is a control unit of a network control center, because it “implements distributed and parallel processing in order to perform event processing for the multiple portable tracking apparatus in real-time.” Ex-1007, 7:35-39; Ex-1002 ¶265.

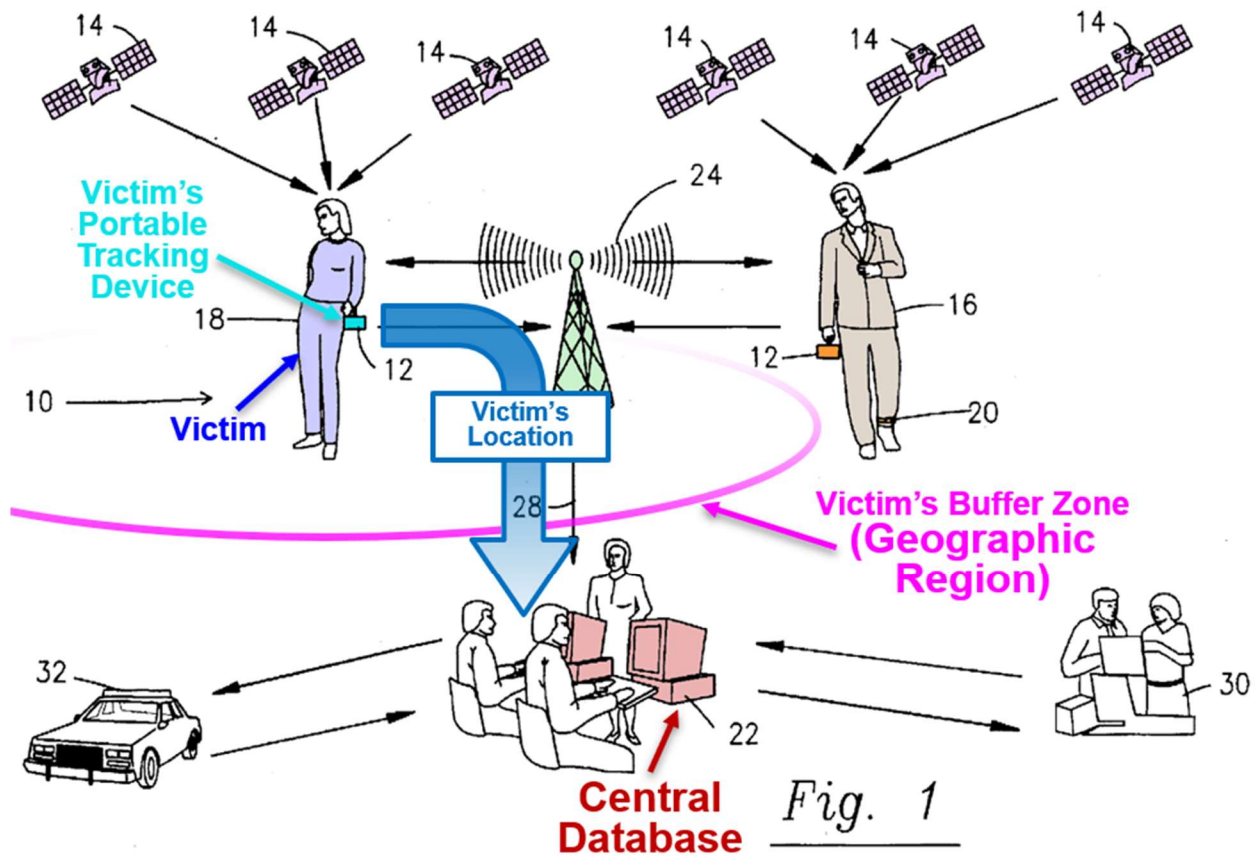
Antenna and transceiver: Layson'757's central database generates a page/poll/query for the location of offender portable tracking devices in a prescribed geographic boundary by transmitting location constraints to those offender portable tracking devices. Ex-1002 ¶266. Layson'757's central database would have included include an antenna and transceiver for wirelessly transmitting such page/poll/query (Ex-1007, 3:9-11 (“The central data-base system 22 communicates to the subject's portable tracking device 12 via the wireless communication link 24)).

Portable mobile remote units: The claimed “portable mobile remote units” correspond to multiple offender units associated with a given victim. The

Layson'757-Layson'213-IllinoisLaw system may include multiple offenders, and each offender may be associated with multiple corresponding victims. Ex-1007, 1:45-48; *see also id.*, 3:3-6, 3:25-28; Ex-1008, Fig. 9A ("1 to N offenders"). A victim similarly could be associated with more than one offender (e.g., a celebrity victim with multiple stalker offenders), with Layson'757's system tracking all of those offenders using their offender portable tracking devices ("all mobile remote units"). Ex-1002 ¶267 (citing Ex-1011, 20:1-4).

Geographic boundary: The claimed "geographic boundary" corresponds to a buffer zone around the location of the victim portable device. Ex-1002 ¶¶268-271.

Layson'757's central database receives the locations of the victim tracking device at "deterministic reporting intervals" (Ex-1007, 7:40-42) or on demand, as illustrated below. *See, e.g.*, Ex-1007, 3:18-23 ("At any time the central data-base system 22 may ... query the portable tracking device 12 to ascertain ... the location of the offender 16 or victim 18."); 7:18-20 (similar).



Layson'757's central database uses the received victim locations to update "location constraints" for the victim's associated offenders. Ex-1002 ¶270. These location constraints identify "locations that are meant to ... exclude a subject [e.g., the offender]"—such as the victim's current location—together with "buffer zones" around those locations. Ex-1007, 8:36-43, 9:41-43. "[I]n the case of a moving victim, [the] location constraints can be dynamic"—i.e., the buffer zones are updated based on the current location of the victim, as reported to the central database by the victim's portable tracking device. *Id.*, 9:42-44.

The buffer zone around the victim is “within the coverage area of said network.” Because the buffer zone moves with the victim, victim tracking device 12 is also located within that buffer zone when it communicates with central database 22. And when an offender device enters within the buffer zone, it alerts the central database of this violation of the victim’s buffer zone. This communication occurs “via the wireless communication link 24.” Ex-1007, 3:3-11. The victim’s buffer zone is thus a geographic boundary around a region served by network cell site 26—“a geographic boundary that is prescribed within the coverage area of said network.” Ex-1002 ¶271.

Page/poll/query for the location of offender devices within the victim’s buffer zone: Layson’757’s central database pages/polls/transmits a query for the location of offender devices within the victim’s buffer zone by transmitting updated location constraints to the offender portable devices, reflecting the victim’s current location (as received by the database). Ex-1002 ¶¶272-281.

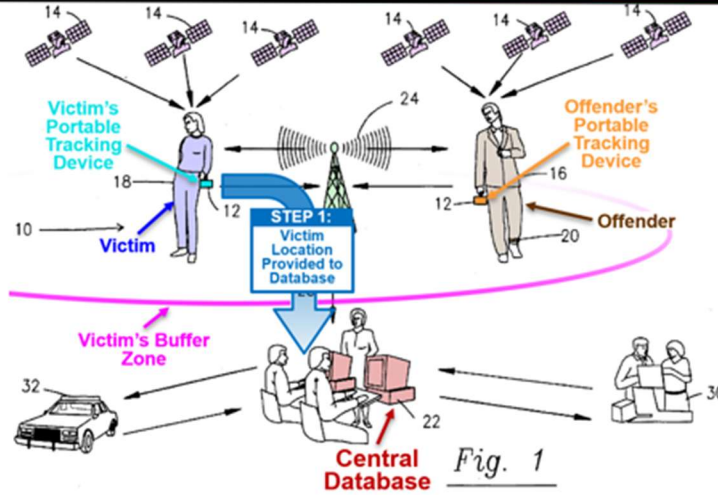
Layson’757 teaches that at each time it receives an updated victim location, the central location sends a request (i.e., transmits a query) that all offender portable tracking devices associated with the victim and located inside the victim’s buffer zone send their location to the database. Ex-1002 ¶273. Transmitting such requests is performed by sending updated “location constraints” to each offender’s portable tracking device, specifying “locations that are meant to ... exclude a subject [e.g.,

the offender]”—such as the victim’s current location—together with “buffer zones” around those locations. Ex-1007, 8:36-43, 9:41-43. Each offender tracking device “continuously processe[s]” these dynamically-updated location constraints, enabling the offender device to notify the central database “immediately when a violation occurs.” Ex-1007, 9:45-50.

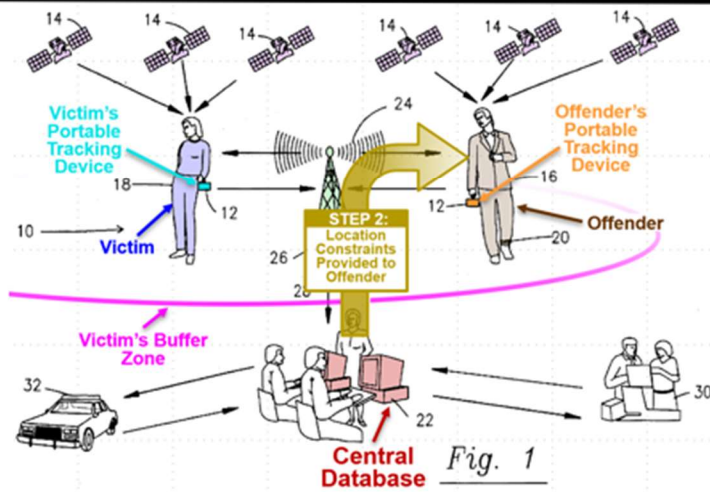
The central database’s transmission of the buffer zone location constraints to offender devices corresponds to transmitting a query for the offender devices to disclose their location to the central database if they are within the victim’s buffer zone (i.e., the “geographic boundary”). Ex-1002 ¶¶274-276. In particular, each of Layson’757’s offender portable tracking device “continuously processe[s]” these dynamically-updated location constraints and provides immediate notifications when the offender tracking device (portable mobile remote unit) enters within the “buffer zone” around the victim’s portable device (“geographic boundary”). Ex-1007, 9:45-50, Cl. 16. This is illustrated below. In particular, in step 1, the central database receives the victim’s current location; in step 2, the central database uses this location to update the offender’s location constraints (which includes a buffer region around the victim’s location) and transmits these updated location constraints to the offender; and in step 3, the offender device compares its location to the updated location constraints, determines it is in violation of the victim’s buffer, and reports this violation to the central database. Ex-1002 ¶¶276-277.

Offender Inside Victim's Buffer Zone

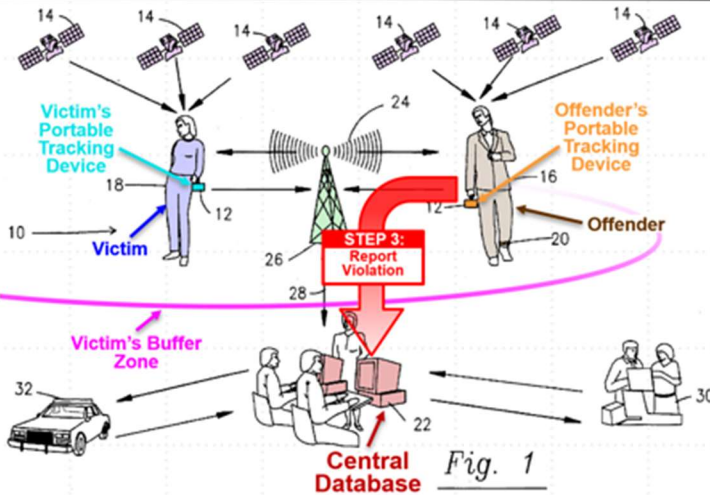
STEP 1: Victim Location
Provided to Database



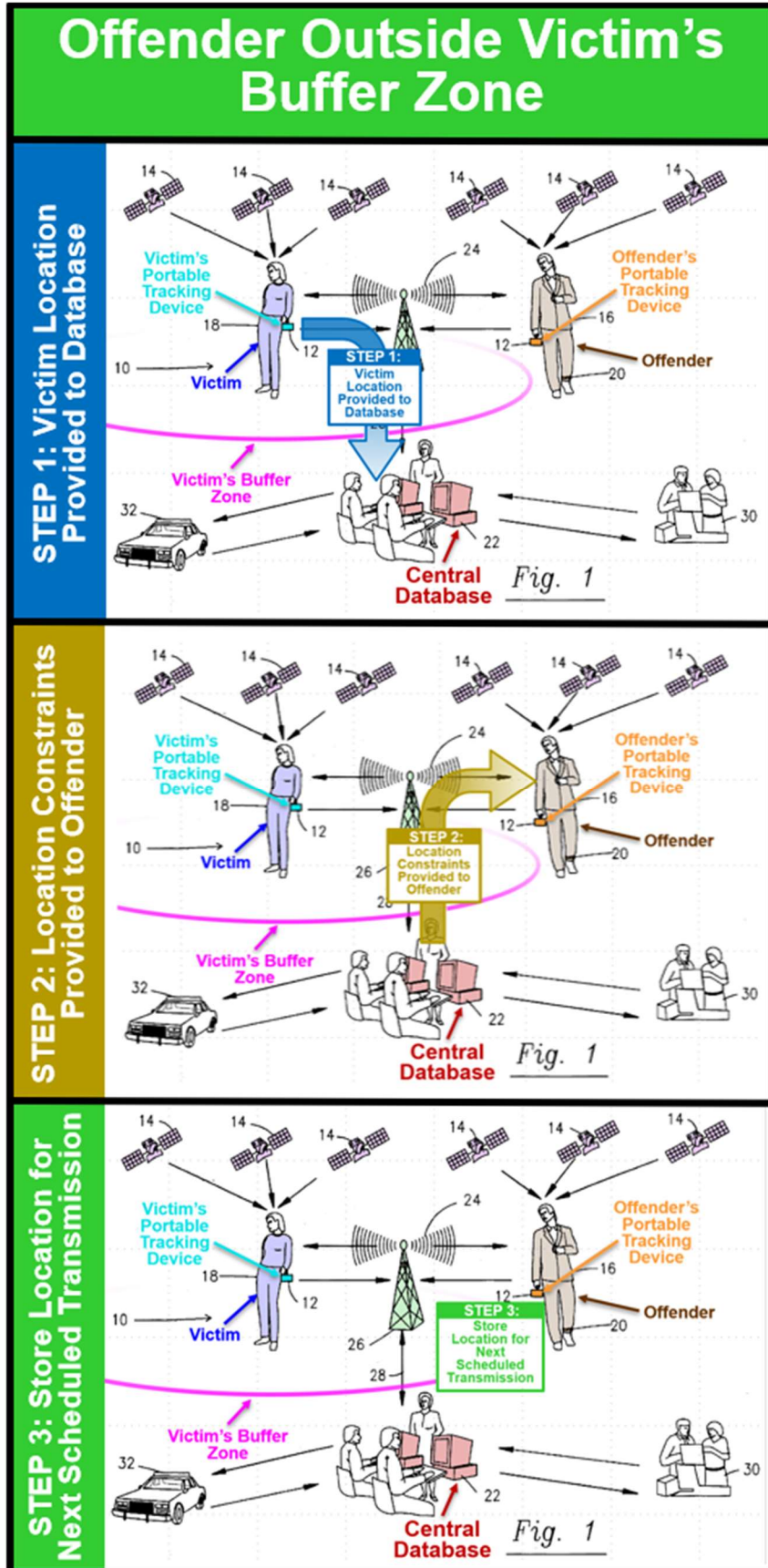
STEP 2: Location Constraints
Provided to Offender



STEP 3: Report Violation



On the other hand, if the offender's "current location complies with the ... location constraints" it is stored by the offender device for upload to the central database at "the next scheduled time." Ex-1007, 7:14-19. The below images are similar to the above, except that, in response to determining that its location is *not* in violation of the victim's buffer, the offender's device does *not* report its location to the central database. Ex-1002 ¶¶278-279.



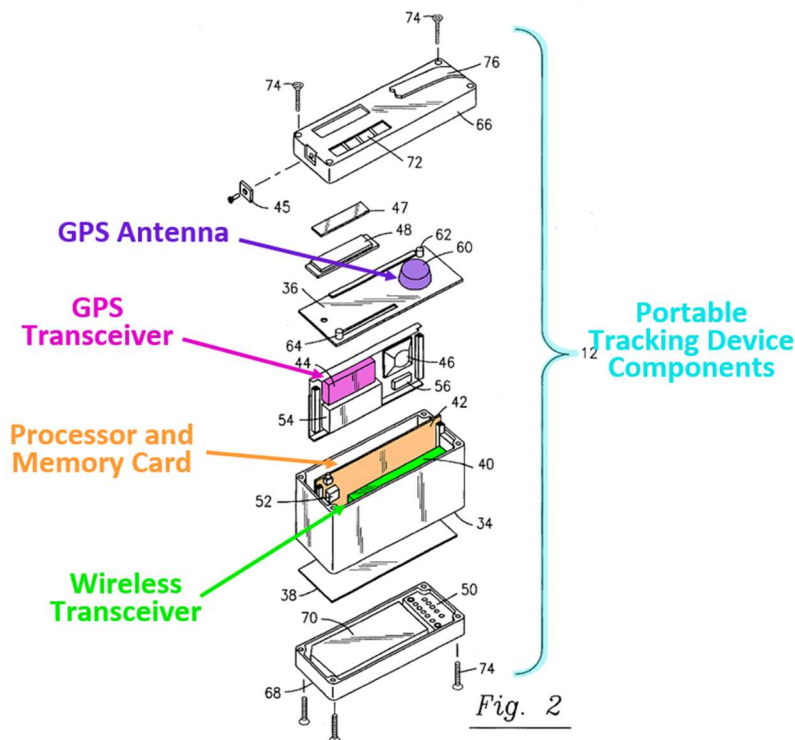
Thus, in Layson’757’s system, the central database’s transmission of updated location constraints each time it receives an updated victim location causes an offender’s portable tracking device either to transmit its location to the central database in response to identifying a violation, or store its location for later batch transmission. Thus, it corresponds to a request, by the central database, that the portable mobile remote units (offender portable tracking devices) in a prescribed geographic boundary (in violation of the victim’s buffer zone) disclose their location to the network, thereby performing the claimed function. Ex-1002 ¶280.

Layson’757 also discloses querying the portable tracking devices for their locations as part of “data fusion processing” (Ex-1007, 7:42-55), when the database “analyzes developing situations such as a stalker-victim encounters” (*id.*, 8:50-56)—i.e., when a stalker is located within a victim’s buffer zone. Ex-1002 ¶281. Thus, when the central database has been alerted to one or more violations (i.e., when one or more stalkers are in the “geographic boundary” around the victim), the central database would query the victim and offender devices for their locations at the same times (i.e., query for their location information) in order to accurately analyze the offenders’ locations relative to the victim, thereby performing the claimed function.

- (6) **Element 1[E]: (v) means to provide the location information of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within said prescribed geographic boundary requested by the network;**

Layson'757-Layson'213-IllinoisLaw teaches the claimed “means” under the construction proposed in Section X.B.2. Ex-1002 ¶¶282-286.

Control unit: Each of Layson'757's devices includes a control unit in the form of a “processor and memory card 42” that “provides the execution environment for the algorithms to compare the current location obtained from the GPS receiver 44” against the “location constraints” provided by the central database (“network”). Ex-1007, 3:45-51.



The location constraints provided to the offender portable tracking devices include the victim location obtained at the network, together with a buffer zone around that location (“geographic boundary”). Ex-1007, 8:36-43. Each offender portable device’s processor and memory card 42 (Ex-1007, 3:45-51) “continuously processe[s]” these location constraints, enabling the device to notify the central database “immediately when a violation occurs”—i.e., when the offender portable tracking device is located within the victim’s buffer zone. Ex-1007, 9:45-50. Such notifications would be sent by the portable tracking device using transceiver 40 (equivalent to an antenna 20 and a transceiver circuitry 21), which enables two-way data communication between the device and the central location. Ex-1007, 3:36-38.

Notifying the central database of the violation would have entailed the offender portable tracking device providing its current location to the central database (Ex-1007, 7:66-8:1), for inclusion in a “notification response to corrections, law enforcement and victims” (Ex-1007, 9:50-54). Ex-1002 ¶¶285-286.

- (7) Element 1[F]: (vi) means to determine and report to the system that, another portable mobile remote unit has maintained relative proximity to the portable mobile remote over a period of time while in motion.**

The Layson’757-Layson’213-IllinoisLaw system determines and reports that the victim portable tracking device has maintained relative proximity to the offender’s portable tracking device over a period of time while in motion, which is

the same as determining that both devices maintained relative proximity with one another over the period of time while in motion. Ex-1002 ¶¶287-295. To be clear, as applied here the recited “another portable mobile remote unit” corresponds to Layson’757-Layson’213’s victim unit, while the recited “the portable mobile remote” corresponds to the offender unit.

Layson’757-Layson’213-IllinoisLaw teaches the claimed “means” under the construction proposed in Section X.B.3.

Control unit: Layson’757’s “central data-base system” is a control unit of a network control center, because it “implements distributed and parallel processing in order to perform event processing for the multiple portable tracking apparatus in real-time.” Ex-1007, 7:35-39; Ex-1002 ¶290.

Receive the location of the victim portable tracking device and the offender portable tracking devices at intervals: The central database receives the location of the victim and offender devices at intervals, when the victim and offender devices are in proximity to one another. In particular, each time the central database receives the victim’s location, it transmits updated location constraints to the associated offender portable tracking devices, causing them to transmit their location to the central database if in violation of those updated location constraints. Similarly, the central location receives the locations of the victim and offender tracking devices at intervals by requesting those locations as part of “data fusion processing” (Ex-

1007, 7:42-55), when “analyz[ing] developing situations such as a stalker-victim encounters (*id.*, 8:50-56).

Maintain a list: Layson’757 teaches maintaining a list of tracking devices at the central database. As shown below, Layson’757 teaches both a “list of subjects” and storing the locations received from the portable tracking devices of those subjects. Ex-1007, Fig. 7A, 7:66-8:1 (similar).

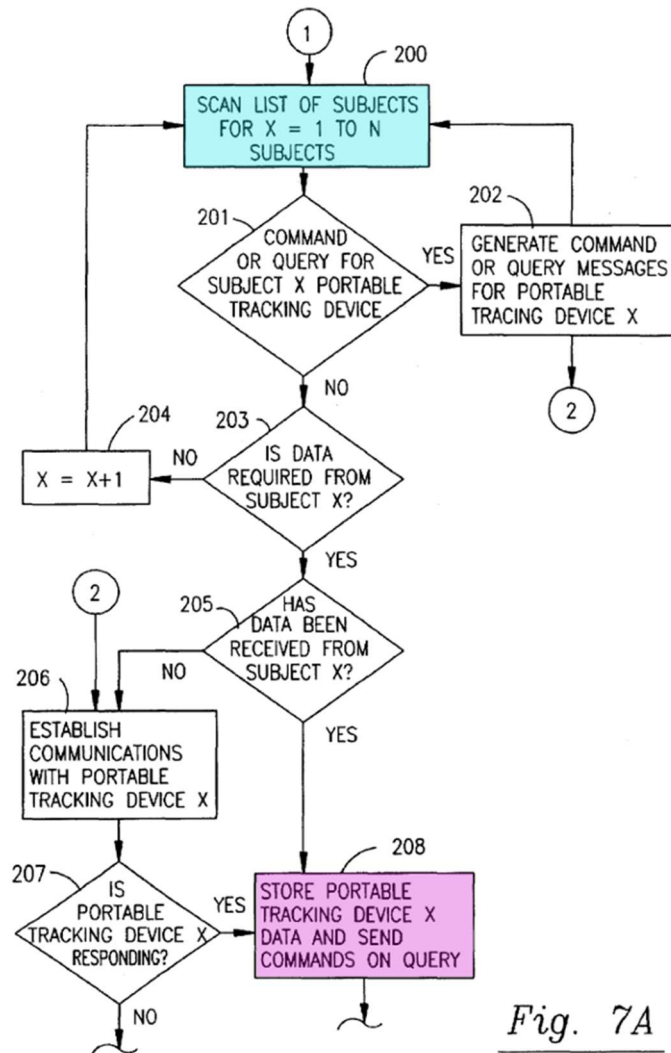


Fig. 7A

As explained in Section XII.B.1.a, in the combined Layson’757-Layson’213 system, these stored locations would be provided to Layson’213’s correlation database for correlation and reporting purposes. Layson’213 teaches that its correlation database may receive “exclusion zone violations reported by [an] offender location monitoring system”—i.e., Layson’757’s central database—in real-time (Ex-1008, 18:35-40), for continuous processing, resulting in the generation of “a table report” of such violations. Ex-1008, 19:41-52. To provide evidence for use by “law enforcement” (Ex-1008, 19:50-52), such a report would at least include, at each time interval, the identities of any offenders in violation of the victim’s buffer/exclusion zone, and the locations of those offenders. Ex-1008, 23:9-21 (data characterizing “exclusion zone violations”); Ex-1002 ¶292. Such information would be stored (i.e., maintained) by Layson’757-Layson’213’s databases (Ex-1008, 9:45-50) for later use in generating such reports. Ex-1002 ¶293. One of a finite number of ways of storing such information would be as a list. Ex-1002 ¶293 (citing technical background discussion on database systems).

As explained in Section XII.B.1.a, the central database may determine that an offender and victim device maintained close proximity to one another over Layson’213’s “loiter time” (“period of time”), while the devices traveled a minimum

distance threshold,¹¹ to identify and report potential stalking behavior, thus performing the recited function. Ex-1002 ¶294.

Transmitter: Layson’757’s central database also includes a transmitter, to enable it to communicate “via the wireless communication link.” Ex-1007, 3:9-13. The central database uses such a transmitter to report potential stalking behavior to the victim and law enforcement. In particular, Layson’757 teaches transmitting notifications/reports to law enforcement and victims that would have included the location of the offender’s portable tracking device. Ex-1002 ¶¶294-295. Layson’757 explains that the notifications to victims may take the form of “[d]ata and voice messages.” Ex-1007, 3:13-17. A POSITA would have understood that Layson’757’s system provides notifications of buffer zone violations to victims to help those victims escape the threat posed by an approaching offender (Ex-1007, 1:12-14), and that a victim would need knowledge of the offender’s location to do so (or otherwise risk the victim fleeing in the direction of the offender). Ex-1002 ¶294 (citing Ex-

¹¹ As noted in Section X.B.3, to the extent that Patent Owner or the Board adopts a construction that does not require a “minimum distance” as part of the algorithm that performs the recited function, then Claim 1 is rendered obvious by the Layson’757-Layson’213 combination without the need to rely on IllinoisLaw. As shown by the relied upon evidence to this point in the analysis, Layson’757-Layson’213 and its described “loiter time” teaches this element if function can be performed using time-only based techniques. But, under the construction set out in Section X.B.3, the IllinoisLaw teaching is brought in if the function also needs to include a minimum distance-based approach as well.

1011, 20:16-29). Accordingly, a POSITA would have been motivated to provide the victim with the location of an offender in violation of the victim's buffer zone, through a data or voice message sent to the victim's portable monitoring device.

2. Ground 5: Claim 2 is rendered obvious by Layson'757-Layson'213-IllinoisLaw in view of Wang

a. A POSITA would have been motivated to combine Layson'757-Layson'213-IllinoisLaw-Wang with a reasonable expectation of success

As explained in Section XII.B.1.a, a POSITA would have been motivated to combine Layson'757-Layson'213-IllinoisLaw. In Layson'757's tracking system, each portable tracking device is configured to compare its position to "location constraints [] sent from the central data-base system," and alert the central database in response to any violations of those constraints. Ex-1007, 9:45-50. Layson'757 explains that the constraints "define locations and a distance radius" around a location, and correspond to areas where the subject (victim or offender) "is allowed or not allowed." Ex-1007, 9:37-43. The location constraints may be static or dynamic (e.g., a buffer region around a moving victim). Ex-1007, 9:35-41; Ex-1002 ¶¶296-305.

Wang similarly teaches a "tracking system" (Ex-1009, 1:2) in which each mobile unit can operate within defined "borders" provided by the network, as illustrated in annotated Figure 1. Ex-1009, 3:50-56.

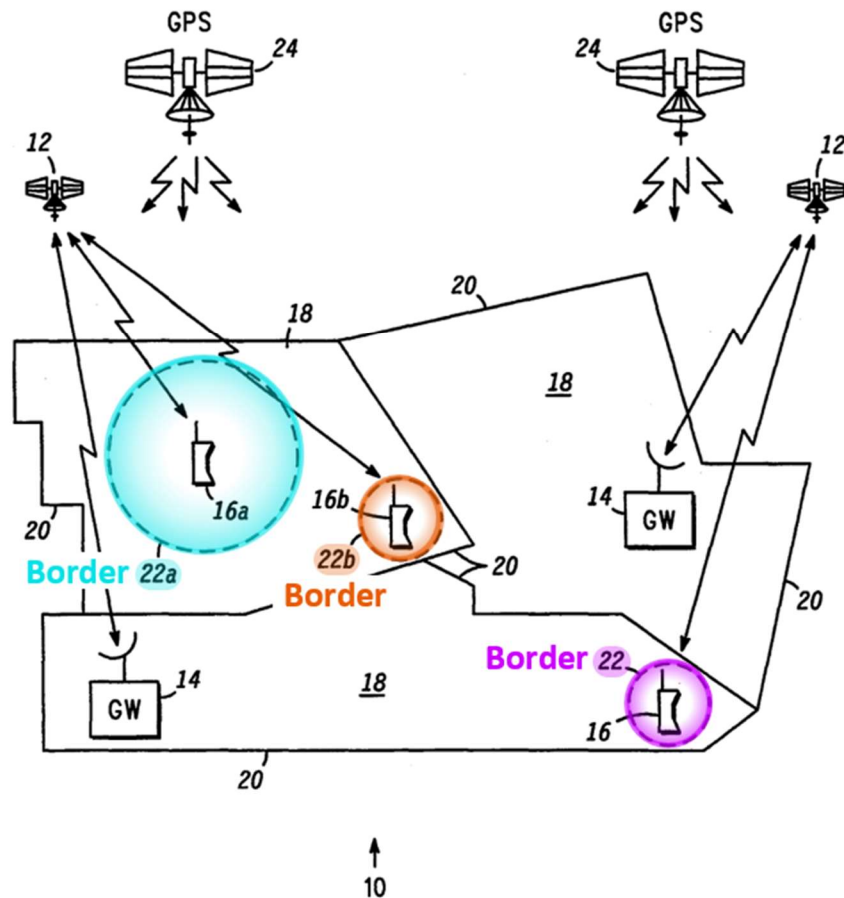


FIG. 1

When a mobile unit is located anywhere within its permissible border, it does not need to transmit its location to the network. Ex-1009, 3:56-58. In this manner, the borders are used to reduce the consumption of “communication resources” and battery power that would otherwise be associated with repeated location transmissions. Ex-1009, 1:38-52. “However, when the mobile unit 16 goes outside the border 22, it sends a new location communication to network 10” and is provided with a new border. Ex-1009, 3:58-61. Wang’s borders may take any shape (Ex-1009, 6:20-24) and are sized based on the network’s desired accuracy level for the

associated mobile unit's location (Ex-1009, 3:64-4:3). For instance, as illustrated above, Wang's network need only know that mobile unit 16a is located *somewhere* within the region defined by border 22a, rather than its precise location. *Id.* In this manner, Wang teaches that its system may conserve communication resources. Ex-1009, 1:44-59.

A POSITA seeking to implement Layson'757's location constraints would have recognized that, where an offender's location constraints include both static permitted regions (e.g., the offender's home or workplace) and dynamic prohibited regions (e.g., buffer region around a victim), the permitted and prohibited regions may sometimes overlap (e.g., a victim driving by an offender's home), and that notifying the authorities of the offender's presence in such an overlapping area would correspond to a false alarm. Ex-1002 ¶¶301-305 (citing Ex-1008, 23:33-38). To avoid such false alarms,¹² a POSITA would have been motivated to modify Layson'757-Layson'213, based on Wang's teachings, such that Layson'757's portable monitoring devices do not provide their locations to the central database when located within a permitted region (analogous to the region defined by Wang's

¹² The combined Layson'757-Layson'213-IllinoisLaw system also addresses another type of false alarms, through Layson'213's "loiter time." Ex-1008, 23:33-36.

border), as specified in the offender's location constraints, to help to protect the victim's privacy. Ex-1002 ¶¶304-305.

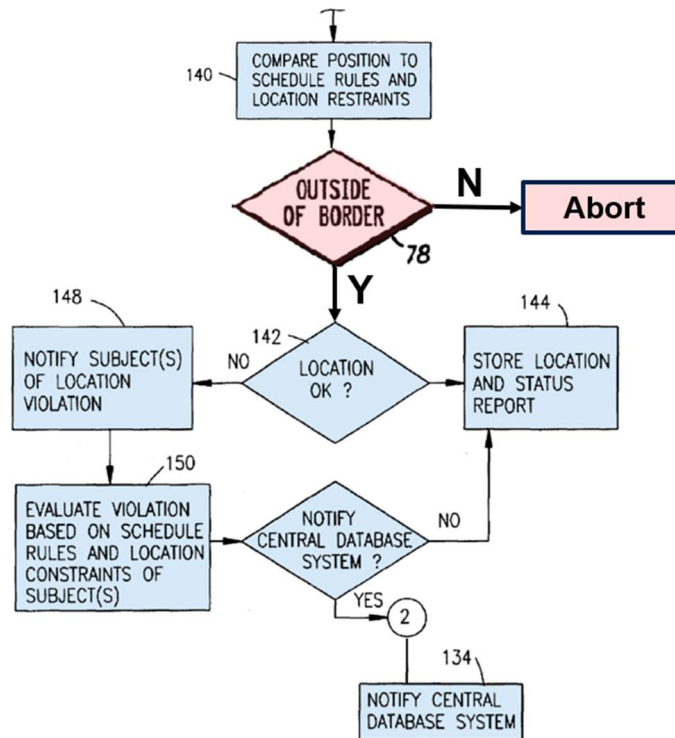
b. Dependent Claim 2

- (1) Claim 2: The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location information to the network.**

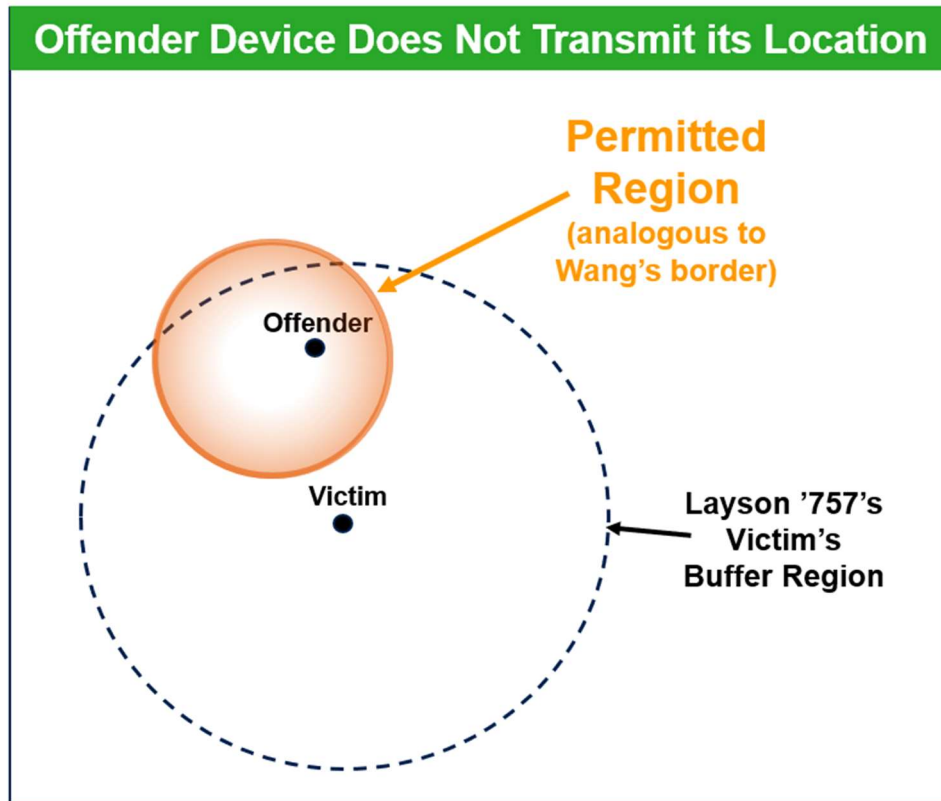
Layson'757-Layson'213-IllinoisLaw-Wang teaches the claimed "means" under the construction proposed in Section X.B.4. Ex-1002 ¶¶306-315.

Layson'757's offender portable monitoring devices each include a "control unit," that includes a "processor and memory card [that] provide[] the execution environment for the algorithms" used to compare the current location of the device to the "location constraints stored in the memory," and to initiate transmission of "a data message to the central data-base system" in response to identifying a violation. Ex-1007, 3:45-60. In the combined Layson'757-Layson'213-IllinoisLaw-Wang system, Layson'757's comparison step would be modified as illustrated below (combining aspects of Figures 6A and 6B of Layson'757, with step 78 of Wang's Figure 6):

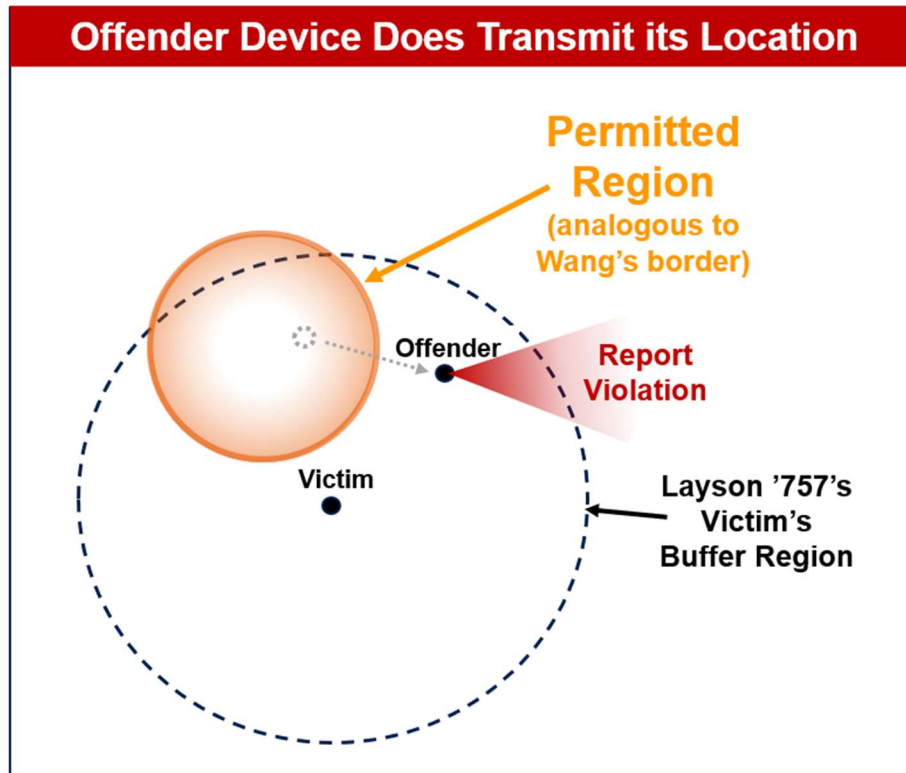
Layson'757 Modified By Wang



In step 140, the portable monitoring device compares its current location to its location constraints received from the central database. These location constraints would include a buffer region around an associated victim's location. And, as explained in Section XII.B.2.a, these location constraints would also include allowed regions, in the form of the offender's home and work. In step 78, the offender device compares its location to its permitted regions in its location constraints (analogous to Wang's border, Ex-1009, 6:7-9). If its current location *is* within a permitted region, the device does not store its location or send its location to the central database (abort), as illustrated below:



If its current location *is not* within a permitted region, in step 142 the offender device determines if the device is located within a prohibited region (e.g., the victim's buffer region), and either immediately provides its location to the central database (step 134) in response to determining it is in a prohibited region (through the device's reporting of the violation) or it stores its location for later batch upload to the central database (step 144).



Each of Layson'757's offender portable tracking devices, as modified by Wang, performs the recited function, each time it executes Layson'757's algorithms, as modified by Wang. Ex-1002 ¶¶309-315.

XIII. THE BOARD SHOULD NOT USE ITS DISCRETION TO DENY INSTITUTION UNDER *FINTIV*

At this time, the district court has not set a trial date, and therefore the concerns animating the Board's precedent in *NHK/Fintiv* are not present. If, prior to institution, the court sets a trial date and PO thus raises an *NHK/Fintiv* argument, Petitioner will respectfully request an opportunity to respond to PO.

XIV. CONCLUSION

Claims 1, 2, 8, 12 and 13 of the '726 Patent should be canceled.

Respectfully Submitted,

/s/ Ben Haber

Ben Haber (Reg. No. 67,129)

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Petitioner certifies that this petition includes 13,966 words, as measured by Microsoft Word, exclusive of the table of contents, mandatory notices under § 42.8, certificates of service, word count, and exhibits.

CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on May 3, 2024, by filing this document through the Patent Trial and Appeal Board P-TACTS System, as well as delivering a copy via express mail upon the attorney of record for the patent at the following address:

SoCAL IP Law Group LLP
310 N. Westlake Blvd. Ste 120
Westlake Village, CA

A courtesy copy was sent to the below counsel via electronic mail:

Sandeep Seth
ss@sethlaw.com
SETHLAW, PLLC
Pennzoil Place
700 Milam Street, Suite 1300
Houston, Texas 77002
Telephone: (713) 244-5017
Fax: (713) 244-5018

Stanley H. Thompson, Jr.
stan@thompsontechlaw.com
THOMPSON TECHNOLOGY LAW
655 N. Central Ave., 17th Floor
Glendale, CA 91203
Telephone: (323) 409-9066

Dated: May 3, 2024

Respectfully submitted,

/s/ Ben Haber

Benjamin Haber (Reg. No. 67,129)
O'Melveny & Myers LLP
400 South Hope Street, 18th Floor
Los Angeles, CA 90071
Telephone: (213) 430-6000
Fax: (213) 430-6407
Email: bhaber@omm.com
Attorney for Petitioner