

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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UBER TECHNOLOGIES, INC.,  
Petitioner,

v.

ENOVSYS LLC,  
Patent Owner.

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Case IPR2024-00825  
Patent 7,199,726

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**PATENT OWNER ENOVSYS LLC'S  
PRELIMINARY RESPONSE PURSUANT TO 37 C.F.R. § 42.107(a)**

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**LIST OF EXHIBITS**

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| Ex-2001 | Declaration of Mr. Joseph C. McAlexander, III      |
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## I. INTRODUCTION

Patent Owner, Enovsys, LLC (“Enovsys”), submits this Preliminary Response (“POPR”) pursuant to 37 C.F.R. § 42.107(a) to the *Inter Partes* Review (“IPR”) petition (“Petition”) filed by Uber Technologies, Inc. (“Petitioner” or “Uber”) for Claims 1, 2, 8, 12, and 13 of U.S. Patent 7,199,726 (the “’726 Patent”).

The ’726 Patent teaches a scalable system suited for providing location-based services for and on top of the cellular network infrastructure of the wireless industry. Such networks can have 10’s of millions of participating cellphone users and would require massive amounts of data processing. For scalability and to make location-based services practical, the ’726 Patent teaches that the network is divided into geographic boundaries that each may be individually queried or polled for notifications, proximity and tracking terminations are limited to only the portable remote units (“PRUs”) currently in those boundaries. Thus, in the ’726 Patent, first a query is directed to a specific network boundary so that only the location information of subset of PRUs currently located within the specific boundary is polled. The network then makes the proximity or tracking determinations from *within that subset of PRUs*.

The patented technology requires requesting the location of a cellular phone or pager (“PRU”) within a specific pollable geographic boundary of telecommunication networks in the wireless industry to make proximity and

tracking determinations amongst such devices so that location-based services can be scalably and efficiently provided in networks that may have tens of millions of customers across the nation and even internationally. Participating wireless customers reporting their cell phone locations to the system specify a pollable geographic boundary within the coverage area of the network and send a query within that pollable boundary for the location of cell phones of another participating wireless customer currently within the boundary. In this manner, the network efficiently facilitates the identification of the location of nearby wireless customer's cell phones. The system also applies a specific tracking algorithm that determines that two cell phones within the same pollable geographic boundary of the network are moving in tandem with each other within a pre-defined distance of each other over a pre-specified tracking distance during a pre-specified tracking time period. In contrast, each of the asserted references either poll only individual units or poll all units and instruct them to report their location back to the network if and when they meet a location criterion and none disclose the specific tracking methodology of the '752 Patent, which is directed to determining whether two cell phones are moving in tandem during a tracking period. *See* Ex.2001, ¶100.

Regarding Ground 1,<sup>1</sup> *Suarez*<sup>2</sup> does not employ a method of notifying or polling for the locations of portable mobile remote units only within a geographic region in a wireless communication system. *Suarez* is directed to a dispatch system for traditional fleets such as taxicabs. There is no disclosure that the system breaks down the network into individually pollable geographic regions areas so that portable remote units in a geographic region may be notified. Rather, dispatch center 16 receives the dispatch request 28 and generates an assignment message 32 that is sent to **each** vehicle in the network, regardless of whether the vehicle is within a specific geographic boundary. As a result, Ground 1 fails to render Claim 12 obvious. Because dependent Claim 13 depends on independent claim 12, claim 13 should also be rejected.

Regarding Ground 2<sup>3</sup>, the combination of *Suarez* and *Mezhvinsky*<sup>4</sup> fails to disclose sending notifications or location requests limited only to portable remote units in specific regions, as claimed in independent claim 8. The Petition fails to provide a sufficient motivation to combine *Suarez* and *Mezhvinsky*, and even if they

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<sup>1</sup> Ground 1 challenges independent claim 12 and dependent claim 13

<sup>2</sup> U.S. Patent No. 6,212,393

<sup>3</sup> Ground 2 challenges independent claim 8

<sup>4</sup> Australian Patent App. No. 200037767

were combined *Mezhvinsky* does not provide the pre-determined boundary of claim 8.

Similarly, Ground 3<sup>5</sup> challenging independent Claims 8, 12, and dependent claim 13 does not render obvious by the prior art reference *Heedfeld*<sup>6</sup>. *Heedfeld* also does not disclose a method for notifying portable mobile remote units only within a geographic region in a wireless communication system.

Regarding, Ground 4<sup>7</sup>, the combination of *Layson*'757<sup>8</sup>, *Layson*'213<sup>9</sup>, and *IllinoisLaw*<sup>10</sup> fails to disclose directing queries to specific pollable boundaries or making the claimed proximity and tracking determinations, The Petition also fails to provide a sufficient motivation to combine *Layson*'757, *Layson*'213, and *IllinoisLaw*, and even if they were combined *IllinoisLaw* does not result in the practice of claim 1.

Lastly, because dependent Claim 2 depends on independent claim 1, the entirety of Ground 5<sup>11</sup> based on *Layson*'757, *Layson*'213, *IllinoisLaw*, and *Wang*<sup>12</sup>

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<sup>5</sup> Ground 3 challenges independent claim 12, 8 and dependent claim 13

<sup>6</sup> Certified Translation of German Patent Application Publication DE 19751741A1

<sup>7</sup> Ground 4 challenges independent claim 1

<sup>8</sup> U.S. Patent No. 5,731,757

<sup>9</sup> U.S. Patent No. 6,405,213

<sup>10</sup> 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

<sup>11</sup> Ground 5 challenges dependent Claim 2

<sup>12</sup> U.S. Patent No. 5,365,451

should be rejected. Furthermore, a POSITA would not be motivated to combine *Layson*'757 with *Wang* because *Wang* teaches reporting only once in an area whereas *Layson*'757 requires continuous location reporting.

The Board should decline to institute trial on the Petition due to its lack of merit. The asserted art, alone or in combination, fails to disclose the systems and methods of the Challenged Claims.

## **II. SUMMARY OF THE '726 Patent**

### **A. Specification of the '726 Patent**

The '726 Patent discloses and claims systems and methods for providing efficient and scalable location-based services using the cellular infrastructure in the wireless telecommunication industry, recognizing there will be a “wide range” of such services and in order to be successful the system must effectively “the remote unit must be able to obtain and relay its location information to other communication targets of the network requesting such information.” Ex.1001, 1:17-24. In such systems and methods, the network is divided into “standard geographic areas”, *e.g.* 201-204, that may be individually queried to prevent overloading of shared network resources. *See id.*, Fig. 3 and 2:14-19; 3:47-62; 4:24-33; 4:38-48, 4:61-5:3, 7:47-59; 8:26-37; 10:45-58. *See also*, Declaration of Joseph C. McAlexander III, Ex. 2001, ¶¶37-47. Thus, for instance, if a distressed

wireless customer wishes to have another wireless customer who is nearby help them, the network individually polls a nearby boundary for the locations of nearby wireless customers within proximity of the distressed wireless customer.

The '726 Patent also observes that with the provision of location-based services in cellular communication networks, a problem exists because the mobile phones are “small, compact and lightweight” and “could easily be concealed to reveal the location of a mobile user without the user knowing or authorizing the disclosure of their location” (1:62-2:1), causing safety and privacy issues. The '726 Patent teaches a specific tracking system that identifies two cell phones that are moving in tandem, *i.e.*, maintaining close proximity within a pre-defined tracking radius of each other, over a minimum distance during a tracking period of time while providing the system their locations at intervals. *See* Ex.1001, 2:45-52; 5:37-6:47, 7:14-18, 7:19-22, 8:57-9:32; Ex.2001, ¶¶37-47. Furthermore, all actions that a PRU cannot perform may be performed by the network. *Id.*, 6:53-56, 11:1-5; Ex.2001, ¶¶43.

**B. Level of Ordinary Skill in the Pertinent Art**

For purposes of this proceeding only, Patent Owner does not dispute the Petitioner's proffered definition for a POSITA.

**C. Claim Construction**

Patent Owner submits the following proposed constructions:

1. ***“portable mobile remote unit”/“mobile remote unit”/“portable communication unit”/“remote unit” (Claims 1, 2, 8, 12, 13)***

Petitioner offers no constructions for these terms. A POSA would understand from the claims and specification that these terms are used interchangeably in the claims, all of which refer to only one thing in the specification: “cell phones or other hand-carried wireless telecommunication devices used to communicate via cellular telecommunication networks available to the general public.” Ex-1001, Figure 1 (depicting the portable remote units 501-508 of the '726 patent are cell phones using cellular infrastructure with wireless consumer subscribers 701-709 with their cell phones 501-509 located in different cells 201-204 of the cellular network serviced

by different cell towers 401-404 and other cellular telecommunication infrastructure 801 (as also described 3:67-4:35).

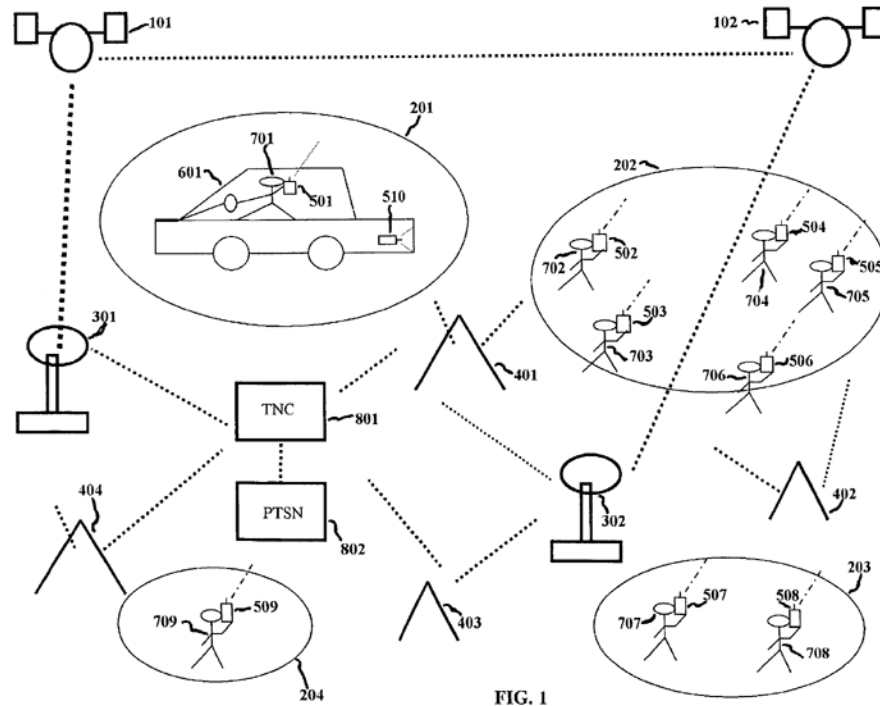


FIG. 1

See also, 1:17-22 (describing the system is directed to “telecommunication services and systems” in the “wireless industry”), 2:1-7 (referring to “wireless consumers”), 2:20-26 (referring to “mobile users”), 2:34-52 (referring to “wireless subscribers”); 3:3-29 (referring to a “mobile telecommunication system”). Ex.2001, ¶¶49-51.

## 2. “geographic region of a wireless network” (Claim 1)

Petitioner offers no construction of this term. However, a POSA would understand this term to refer to “a specific coverage area of a wireless network that may be individually queried for PRU information, such as location.” This is

consistent with the specification which explains how notices and locations requests are sent to query only specific geographic regions of the network and tracking so that only one or more PRUs currently in that region are involved. Ex.1001, Fig. 1, 1:11-22, 1:56-66, 2:1-52, 3:3-60, 4:24-5:3, 7:47-9:32, 10:1-11:6; *see also* Ex.2001, ¶¶ 40-43, 50, 52; A POSA reading the '726 Patent would understand that “beamed in the specified geographic region” refers to the message being transmitted for consumption within a specific coverage area of the network, such as the area within the range of a specific cell tower utilized by the network. *See also*, section V (A)(5) for specification support showing, in an exemplary embodiment, that location requests for proximity and tracking determinations and other messages are directed to specific geographic areas within the coverage area of the network such that locations from the PRUs currently within those areas are involved in making tracking or proximity determinations and/or only PRUs currently within those areas receive the message.

3. ***“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)***

This claim element functions “to allow 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.” Ex.1001, Fig. 7, references 1-3, 5-6; 7:47-8:2, 8:26-9:12, 10:45-58; *see also* Ex.2001, ¶¶53-54. The minimum structure for performing the recited function is “a control unit programmed to communicate to another network component information which identifies a specified contiguous area on earth, within the coverage area of the network, within which a notification should be sent only to one or more PRUs currently located within that area of the network, and equivalents thereof.” *Id.* The control unit receives a specific geographic boundary where a notice should be forwarded and sends the notice/message only to specific regions within the system. *See* Fig. 7, specifically reference 1-3, 5-6 and 8:57-9:12; *id.*, ¶¶69.

Neither this element, nor any of the means-plus-function terms in the '726 Patent's claims, requires an antenna, transceiver or GPS equipment. *Id.*, ¶54. The PRU itself already includes an antenna to receive GPS and cell tower signals as well as operating system programming to determine its current location (*e.g.*, longitude and latitude coordinates) from such signals, the hardware to store the GPS coordinates, and a transceiver. (*See, e.g.*, Ex-1001, Fig. 2 (showing receiver circuitry 21 and memory means 26 used by control unit 22); 4:36-45 (explaining that the control unit 22 processes the information whereas the transceiver 21

receives and transmits information to the network via the PRU's antenna 20); Fig. 7 shows the programming algorithm used by a control unit to query specific geographic boundaries of the network). The PRU itself already includes antennae, storage hardware and a transceiver. To implement any of the means-plus-function claim elements in the '726 Patent's claims, a POSITA only needs to add control units programmed to perform the claimed functions, according to the algorithms described in the '726 Patent's specification. Additionally, a POSITA understands that two control units, for example at the control station, use a hardwire connection between the two. *Id.*, ¶54.

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

The claim element functions to “forward said notification to portable mobile remote units within said region.” The minimum structure for performing the recited function is “a control unit programmed to control sending the notification to only one or more portable mobile remote units currently located within the identified area, and equivalents thereof.” Such an interpretation is supported by the '726 Patent's specification. *See* Fig. 7 reference 3 and 8:57-9:12 describing that a control unit is programmed to forward a notice/message to portables present in a specific geographic boundary of the system to reveal their location. *Id.*, ¶55.

The required function may be performed at the control station. Ex.1001,

11:2-6 (“In situations where a PRU cannot perform any of the tasks described herein, the network may obtain its location information and the required functions performed at the network and forwarded to the appropriate communication target on completion.”). Furthermore, a POSITA reading the ’726 Patent’s specification understands that the network PRU and control station already has have antenna and transceiver to receive, and hardware to store data, such as the PRUs location data, for further processing. None of the network communication hardware that may be used is part of the minimum required structure of this element. Ex.2001, ¶¶55-58.

**5. “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)**

This element comprised to “means” terms. The “means to identify” functions “to identify said notification (iii) at the portable mobile remote unit.” The minimum necessary structure to perform this function is “a control unit programmed to identify the notification was received at the portable remote unit.” *Id.*, ¶¶75. The “means to verify” functions “to verify whether the portable remote unit exists within said region (iii).” The minimum necessary structure to perform this function is “a control unit that is programmed to determine whether the portable remote unit is within the specified region, and equivalents thereof.” *See*,

Ex.1001, Fig. 7, reference 4 and 9:13-32; Fig. 6, reference 3 and 10:21-37 (discussing basic checks by a control unit for boundary information in determining whether a unit is within the prescribed boundary); Ex.2001, ¶¶59-62. The control units do not require their own antenna and transceiver circuitry and two control units may utilize a hardwire connection to communicate with each other where both are located either at the PRU or control station. *Id.*

**6. “(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)**

This element functions “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.” The minimum necessary structure to perform the recited function is “a control unit programmed to submit a request to a specific contiguous area on earth within the coverage area of the network for the location only of one or more PRUs currently located within that area, and equivalents thereof.” *Id.*, ¶¶63-66. This is consistent with the ’726 Patent’s specification, which teaches polling PRU locations within individual pollable boundaries. *See generally*, Ex.1001, 4:38-51, 7:19-29, 7:47-8:41, 10:45-58 (collectively explaining the individually pollable network boundaries are used for location requests and notifications); 11:1-6 (the required function may be performed at the control

station.); This element does not need its own antenna or transceiver circuitry because it can use the antenna and transceiver circuitry of the PRU or at the control station. Additionally, two control units located at the PRU at the network can utilize a hardwire connection between the two. Ex.2001, ¶65.

**7. 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)**

This element functions “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.” The minimum necessary structure to perform the recited function is “a control unit programmed to determine whether the location of a portable remote unit is within a specified contiguous area on earth and, if so, provides the location of the portable remote unit to another network component, and equivalents thereof.” See Fig. 6, reference 1-4, 6 and 10:21-36; Fig. 7 reference 1, 2, 4, 5 and 9:13-32 (teaching use of a control unit programmed to provide the location of a PRU upon determination that it is within the prescribed geographic boundary.); Ex.2001, ¶¶67,69. The required function may be performed at the control station. Ex.1001, 11:1-6; Ex.2001, ¶68.

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

This claim element functions “to determine and report to the system upon request that, [sic] another mobile remote unit of the network has tracked the portable mobile remote over a period of time.” The minimum necessary structure to perform the recited function is a control unit programmed to identify that another PRU within the same network boundary as the PRU has moved with the PRU over a pre-specified distance while within the network boundary or pre-specified radius over a pre-defined time period. This is consistent with the algorithm described in the '726 Patent's specification. *See, e.g.*, Ex.1001, 5:37-64, 6:1-64; Ex.2001, ¶70. Again, a control unit of the system is programmed to provide this function. Ex.1001, Fig. 5, references 10-12 and 6:1-47; Ex.2001, ¶71

Petitioner's proposed construction improperly conflates the network boundary that is being polled with the tracking radius that is used to make the tracking determination. This is contrary to the specification and is not logical because one PRU simply being located within the same polled network boundary as another PRU does not in itself establish that the former is tracking the latter. Ex.2001, ¶70. Rather, a determination is made whether a PRU within that boundary is also moving within a predefined distance of the tracked PRU over a

pre-defined period and a pre-defined distance. *Id.* As with the other “means” claim terms, and for the same reasons, this claim element does not require a transmitter, and a control unit may be reporting the tracking determination to another control unit through a hardwire connection. *Id.*, ¶71.

**9. “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” (Claim 2)**

The function of this claim element is to “determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location information to the network.” The minimum necessary structure to perform the recited function is a control unit programmed to, prior to sending a location of a remote unit to another network component, determine if the location of the remote unit is within a specified contiguous area on earth where disclosure of the remote unit’s location is prohibited, and equivalents thereof. See, Fig. 6 of the ’726 Patent, references 3-7 and 10:21-37 (describing that the control unit is programmed to determine if the location of the remote unit is within a specified contiguous area on earth where disclosure of the remote unit’s location is prohibited.)

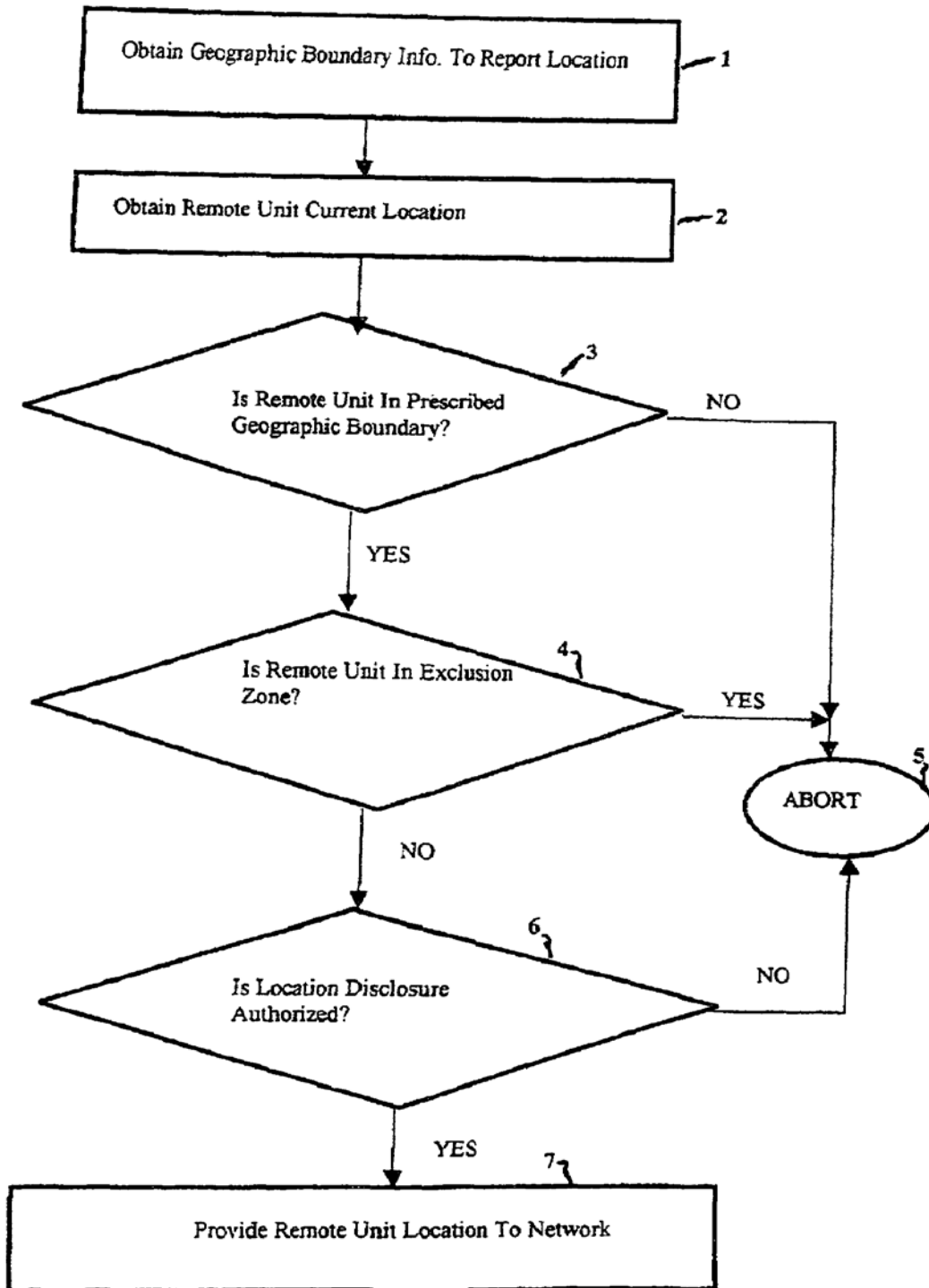


FIG. 6

Petitioner erroneously limits its construction only to a control unit at the PRU, contrary to the specification's teachings that the network can also make any determination based upon the PRU's location. *See, e.g.,* Ex.1001, 6:49-55 (explaining a control unit at the network can also make a tracking determination); 11:2-6 (explaining that the network may obtain the location information and perform any necessary location-based function). *See also,* Ex.2001, ¶¶72-74.

**10. (vii) “geographic boundary that is prescribed within the coverage area of the network” (Claim 1)**

Petitioner offers no construction of this term. However, a POSITA reading the '726 Patent would understand this term to refer to “a specific coverage area of a wireless network that may be individually queried for PRU information, such as location.” *See,* section II.A.1. for specification support; Ex.2001, ¶¶91.

### **III. SUMMARY OF THE PRIOR ART**

**A. U.S. Patent No. 5,731,757 (Layson'757) (Ex.1007)**

*Layson'757's* network differs significantly from the network of the '726 Patent. Unlike the '726 Patent, *Layson'757* is not directed to making tracking been cell phones moving in tandem or querying specific boundaries for the location of nearby cell phones subscribers in a cellular network. Rather, it describes a system in which a parameter is sent to a specific device, which notifies the network when

and if that parameter is ever violated. A victim cannot request the location of the nearby offender (or vice versa). Ex.2001, ¶86.

More particularly, *Layson*'757 is an offender/victim correlation system that prevents stalking crimes by alerting victims, offenders and law enforcement when an associated offender is within a buffer zone a specific victim. The system uses specialized tracking devices that are designed for the law enforcement system. Ex.1007, 2:45-57; Ex.2001, ¶¶81-86.

Both offender and victim devices continuously report their location at periodic intervals. The offender's device is also provided with schedule rules and location constraints, which may be dynamically updated based upon reported victim location. The offender's device is programed to compare its GPS coordinates with the location constraints and notifies the network when a location constrain is violated. The central database system also analyzes the offender's current position relative to the associated victim's to determine if any alarms to law enforcement or corrections, commands to the offender and warnings to the victim are required. Ex.1007, 3:3-27, 7:3-14, 8:9-20; Ex.2001, ¶¶81-86.

**B. U.S. Patent No. 6,405,213 ("*Layson*'213") (Ex.1008)**

*Layson*'213 is a crime/offender location correlation system that uses a correlational database to support investigative queries by matching location histories

with crime incident data 2 from computer aided dispatch (CAD) 6 systems and crime incident investigative data 9 from record management systems (RMS) 8 within law enforcement agencies and offender location data 3 on a continuous basis. *Id.*, Abstract, 1:20-42, 8:27-31; Ex.2001, ¶¶87-91. Each offender's violations of exclusion zone criteria 221 from offender sentencing data Each offender's data from an offender location monitoring system 220 is correlated against any crime incidents 225 from CAD 6 and RMS 8 systems. *Id.*, 19:45-50, 61-63; Ex.2001, ¶¶87-91. Law enforcement and corrections/community supervision agency personnel use the query terminal 37, 39 for structured queries. *Id.*, 20:40-42; Ex.2001, ¶91. *Layson*'213 does not describe a cellular network available to the general public or a network that individually polls specific geographic areas of the network's coverage area for the location of nearby cell phones. Nor does it make any determinations that two PRUs moved in tandem over a minimum distance during a tracking period. Ex.2001, ¶91

**C. U.S. Patent No. 5,365,451 (“Wang”) (Ex.1009)**

*Wang* teaches a fleet tracking system in which a remote vehicle reports its current location to a central network station one time for each “border” (fixed perimeter) it has been provided by the system. When the vehicle has moved outside of that “border,” it again reports its location to the central station and receives a new border. The size of the “border” depends upon how far the vehicle's currently

reported location is to a jurisdictional line separating one state from another, *i.e.*, a state line. The farther away the vehicle is from the state line, the larger the border; the closer the vehicle is the smaller the border. In this manner, the system more precisely knows the vehicle's location when it is closer to a state line so it can determine precisely when the vehicle has crossed the state line where new regulations or tariffs may apply. See Ex.1009, 1:38-52 and 3:50-56, 6:20-24; Ex.2001, ¶92. Wang does not describe a cellular network available to the general public or a network that individually polls specific geographic areas of the network's coverage area for the location of nearby cell phones. Nor does it make any determinations that two PRUs moved in tandem over a minimum distance during a tracking period. *Id.*

**D. 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.1010)**

*IllinoisLaw* is a portion of a legal code that defines criminal conduct. It is not a technical reference for which a POSITA would have knowledge. Of interest here, it defines “places a person under surveillance” as “remaining present outside the person's school, place of employment, vehicle, other place occupied by the person, or residence other than the residence of the defendant.” Ex.1010; Ex.2002, ¶58 It also defines “follows another person” as (i) to move in relative proximity to a person

as that person moves from place to place or (ii) to remain in relative proximity to a person who is stationary or whose movements are confined to a small area. It also exempts from the definition “following within the residence of the defendant.” *Id.*

**E. U.S. Patent No. 6,212,393 (“Suarez”) (Ex.1013)**

*Suarez* teaches a radio fleet dispatch system for vehicles, such as taxicabs. *See* Ex.1013, FIG 1 & 2:65-66; Ex.1002, ¶¶137-139. Upon receiving a ride request, the dispatch center searches for a vehicle to assign by transmitting an assignment message to **all** the vehicles 14 in the system. Ex.1013, FIGS 1 & 15, 3:1-33; 5:7-17, 9:10, 10:21-28; Ex.2001, ¶95. The assignment message includes location criteria comprising the pick-up address and a perimeter. A device in the vehicle is programmed to compare its current location with the location criteria and respond if there is a match. If no vehicle responds, the system sets a larger perimeter for the search and again sends the assignment message out to the entire fleet until a response is received. By placing the decision within the vehicle, the dispatch center is alleviated of the task of tracking each vehicle in the fleet, greatly simplifying the operation of the dispatch center and at the same time reducing traffic congestion on the communication channels. *Id.*, 5:23- 5:35-54, 9:45-10:25-28; Ex.2001, ¶¶94-97.

*Suarez*’s network differs significantly from the network of the ’726 Patent. Unlike the ’726 Patent, *Suarez* does not describe a cellular network available to the

general public or a network that individually polls specific geographic areas of the network's coverage area for the location of nearby cell phones. Nor does it make any determinations that two PRUs moved in tandem over a minimum distance during a tracking period. Ex.2001, ¶97.

**F. Australian Patent Application No. 200037767 Published August 17, 2000 (“Mezhvinsky”) (Ex.1017)**

*Mezhvinsky* discloses a web-based service network to which mobile service providers, like chauffeurs, can subscribe and report their locations to a web server. The user interfaces to a web page, which displays the geographical locations of certain subscribers. Ex.1017, 5:21-29, 12:13-18; Ex.2001, ¶98. The user's equipment 60 will know its own geographical location and will display an area surrounding the user's location. Ex.1017, 10:1-9. Either the user's computer or the WEB server 50 will calculate the geographic location of one or more of the mobile service providers to display in the user-controlled display area. *Id.*, 10:11-29. When the user selects one of the mobile service providers, they are sent a message. *Id.*, 14:11-22. The user's web interface may also be configured to automatically select the nearest mobile service provider. *Id.*, 14:24-30; Ex.2001, ¶98.

**G. German Patent Application Publication DE 19751741A1  
(“Heedfeld”) (Ex.1019) 13**

Like *Suarez*, *Heedfeld*’s dispatch system sends the dispatch request to each vehicle in the fleet, whether it is inside or outside of a specified region, in order to identify the locations of those vehicles that are within the specified region. Each vehicle includes a radio data terminal which analyzes the request and returns its location to the control center if it is in fact located in the specified area. Ex.1018, Abstract, 4:32-39, 4:48-54, 5:4-11; Ex.2001, ¶99.

**IV. THE PETITION FAILS TO SHOW THAT THERE IS A  
REASONABLE LIKELIHOOD THAT THE PETITION WILL  
PREVAIL ON ANY CLAIM**

**A. Standard For Granting *Inter Partes* Review**

The Board may only grant institution on a petition for *Inter Partes* Review where “the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(c). The Petitioners bear the burden of showing that this statutory threshold is met. *See* Trial Practice Guide, 77 Fed. Reg. 48,756 (Aug. 14, 2012).

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<sup>13</sup> Patent Owner relies upon Petitioner’s translation, and reserve the right to update my opinion should any other translation be introduced having any substantive impact.

“It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that ‘[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.’” *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (quoting *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988)).

As shown below, Petitioner concocts Frankenstein’s monster with a patchwork of references whose sole motivation to combine is the hindsight reconstruction of the patented inventions. Moreover, even the concocted combinations do not arrive at the claimed inventions. Denial of institution is warranted for all asserted Grounds.

**B. Claims 12 and 13 are not rendered obvious over Suarez (Ground 1)**

**1. Independent Claim 12**

Petitioner argues that Independent Claim 12 is rendered obvious by *Suarez*. Patent Owner disagrees for the reasons below.

**a. Element 12[pre]: A method for notifying portable mobile remote units within a geographic region in a wireless communication system comprising;**

Petitioner does not take a position whether the preamble is limiting. In my opinion, a POSITA would find the preamble provides structure or steps that are

necessary to give life, meaning and vitality to the claims because it requires that the claimed method is for notifying portable mobile remote units within a geographic region in a wireless communication system. Ex.2001, ¶102.

First, this claim is directed to cell phones or other hand-carried wireless telecommunication devices used by wireless consumers to communicate via cellular telecommunication networks available to the general public. *Suarez*, in contrast, is directed to a fleet dispatch system for “taxicabs, delivery trucks and the like” that improves prior “two-way radio” dispatch systems concerned with “shortage of radio frequency channels, “the expense of maintaining existing channels and/or petitioning the local government for new channels” which “can be out of reach for many dispatch businesses” . Ex.1013, 1:12-14, 21-22, 56-60. *Suarez*’s devices are clearly radios and not cell phones or other hand-carried wireless telecommunication devices used by wireless consumers to communicate via cellular telecommunication networks available to the general public. Ex.2001, ¶104.

*Suarez* does not employ a method of notifying portable mobile remote units within a geographic region in a wireless communication system. There is no disclosure that the system breaks down the network into individually pollable geographic regions areas so that portable remote units in a geographic region may be notified. Ex.2001, ¶105. Rather, dispatch center 16 receives the dispatch request

28 and generates an assignment message 32 that is sent to each vehicle in the network, regardless of whether or not the vehicle is within a geographic boundary. Ex.1013, Abstract, 3:20-25, 7:19-26, 10:21-25; Ex-1002, ¶ 288 (“*Suarez*’s dispatch controller receives a ‘request for dispatch’ and transmits an assignment message to a fleet of vehicles ***so that each available vehicle*** replies to the assignment message.”); Ex.2001, ¶105. Therefore, *Suarez* does not teach a POSITA the preamble of claim 12. *Id.*, ¶106.

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

*Suarez* does not disclose this element for the same reasons as it does not disclose the preamble. Additionally, *Suarez* does not disclose Element 12[A] because *Suarez* does not disclose such a pool of portable mobile remote units that are able to communicate with the network to establish their geographic location “within the system.” A POSITA would understand their location “within the system” refers to a specific geographic region of the network that can be individually polled. *Suarez* radio terminals may establish a geographic location but establish no location “within the system” location since *Suarez* network is not divided into individually pollable regions so that each geographic location can also represent a location “within the system.” *Id.*, ¶107.

- c. **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* does not disclose this element because the request for dispatch received by the dispatch center does not describe a region within a coverage area of the network where a notification should be sent. Rather, the request for dispatch includes an assignment location, from which the dispatch center generates a location parameter 50. Ex.1013, 9:54-58. Moreover, even if the assignment location indicates a location parameter that defines a region, in *Suarez* the regions are not a region where a notification should be sent. Rather, the notification is sent to all vehicles of the network, whether they meet the location parameter or not. Ex.1013, Abstract, 3:20-25, 7:19-26, 10:21-25; Ex.1002, ¶288; Ex.2001, ¶108.

Uber's premise (Ex.1002, ¶¶163-171) is flawed because it is directed to how *Suarez* searches for vehicles that are within specific areas by polling every unit to search for units meeting specific location criteria. But the '726 Patent does not merely disclose specifying a search criterion to identify where units are located, but rather limits where units are polled in the first place. It may be that location search

parameters are conventional<sup>14</sup>(Ex.1002, ¶163) to match targets that meet the search criteria, as in *Suarez*, but this does not disclose directing notices to PRUs in specific network regions. A search criterion is not “geographic boundary information describing a region within a coverage area of said network where a notification should be sent.” See Ex.2001, ¶¶109-114. Uber concedes a notification is sent to all units in the fleet (Ex.1002, ¶¶166, 168) but incorrectly attempts to show that notifications are sent to only a limited number of vehicles because the receiving unit only alerts the driver when the location criteria is met (Ex.1002, ¶169). But this is misleading because every vehicle’s device still receives the notification but only alerts the driver depend on whether the vehicle’s location meets the location criteria. Ex.1013, 8:44-51, 10:55-66; Ex.2001, ¶109-114.

Therefore, this claim element is not met by either the processing of the dispatch request or the assignment message of *Suarez* because the notification goes to all vehicles in the fleet and not to those in a specific geographic region of the network.

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<sup>14</sup> Including in Ex.1023 and 1025, to which Mr. Andrews also cites.

**d. Element 12[C]: iii) forwarding said notification to portable mobile remote units within said region;**

*Suarez* does not disclose this claim element. The location parameter in the assignment message is sent to all vehicles, and there is no mechanism to limit the assignment message being sent only to those vehicles that meet the location parameter. See Ex.2001, ¶¶115-118.

**e. 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)**

The wireless communication device 36 described in *Suarez* is not a “portable mobile remote unit” as that term would be understood by a POSITA reading the ’726 Patent’s specification because it is clearly not a cellular phone that uses a cellular network, as previously discussed. Moreover, as previously discussed, the asserted “region” used as a criteria in *Suarez* is not a polled region to which a notice is sent, as previously discussed. Therefore, *Suarez* does not meet this claim element. See Ex.2001, ¶119.

In sum, *Suarez* does not disclose Claim 12 of the ’726 Patent, nor render it obvious.

\* \* \*

For all the foregoing reasons, Petitioner's Ground 1 is not likely to succeed and the Petition should be denied.

## **2. Dependent Claim 13**

Dependent Claim 13 recites:

The method of claim 12 further comprising responding to said notification if said portable mobile remote unit (iv) exist[s] within the geographic boundary defined by said region.

*Suarez* does not disclose claim 13 for all the reasons it does not disclose claim 12. Also, the asserted "region" is used in *Suarez* to determine whether the wireless device will process the message and alert the driver thereof. It is not an individually pollable region of the network to which a notice is sent, as previously discussed. Ex.2001, ¶121.

### **C. Claim 8 is not rendered obvious by the combination of Suarez and Mezhvinsky (Suarez-Mezhvinsky) (Ground 2)**

#### **1. A POSITA would not have been motivated to combine Suarez-Mezhvinsky or had a reasonable expectation of success in so doing**

There is no motivation to combine argument *Suarez* and *Mezhvinsky*. *Suarez* is a dispatch system that prevents a driver from responding to an assignment unless their vehicle matches a location criterion. Each vehicle's radio device determines if its location meets the criteria and, if so, alerts the driver for a response. This reduces incoming traffic, minimizes distraction, and eliminates irrelevant responses.

Therefore, *Suarez's* fleet vehicles do not continuously report their location to the dispatch center. *Mezhvinsky*, on the other hand, teaches a web-based system where mobile service providers, such as taxis, report their location to a web server. A web user specifies an area around their location, and the browser calculates and displays service providers within that area, allowing the user to select, communicate with, and pay for a service provider. A POSITA would not be motivated to combine *Suarez's* input device with *Mezhvinsky's* system to designate geographic boundaries for mobile service providers, as it would add unnecessary input and make the system less user-friendly. Even if a POSITA were motivated to allow user input of location-based search criteria, this does not equate to specifying a geographic boundary for polling or sending notices. The assignment message would still be sent to all vehicles regardless of their location. Additionally, requiring *Suarez's* dispatch center to receive continuously updated locations from vehicles would increase radio traffic, which is contrary to *Suarez's* goals. Lastly, *Mezhvinsky's* search criteria involve selecting a service provider after displaying its geographic area, so there is no need for *Suarez* to use *Mezhvinsky's* criteria to poll for a vehicle that has already been selected by the user. Ex.2001, ¶122-127.

**2. *Suarez-Mezhvinsky Does Not Disclose Claim 8***

**a. Element 8[pre]: A communication system comprising:**

Patent Owner does not dispute that *Suarez* discloses a communication system.

**b. Element 8[A]: i) a network of communication resources;**

Patent Owner does not dispute that *Suarez* discloses a network of communication resources.

**c. 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* does not disclose a pool of portable mobile remote units that are able to communicate with the network to establish their geographic location within the system. While *Suarez* discloses that the wireless communication device 36 in each vehicle may use a pager channel, mobile cellular channel, or a mobile radio channel (all which *Suarez* refers to as RF channels), this does not disclose to a POSITA that the units are hand carried cellphones or pagers that use cellular networks available to the general public. Ex.2001, ¶130. Rather, the specification describes these as radios with dedicated inbound and outbound frequency channels. See, Ex.1013, 3:27-51; Ex.2001, ¶130. The infrastructure used for direct radio communication is substantively different from the use of actual mobile cellular network infrastructure, and there is no description to the POSITA as to how to implement its system in a

mobile cellular network. *Suarez*'s wireless communication device is a not a cell phone or other hand-carried wireless telecommunication device to in cellular networks available to the general public. Ex.2001, ¶¶131-132.

- d. 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* does not teach Element 8[C] because neither of the systems disclosed in these references send notifications to portable remote units in specific regions. Rather, in *Suarez*, notifications are sent to each vehicle in the fleet, as discussed above. There is no wireless consumer specifying geographic boundary information within a network's coverage area for notification. Instead, the *Suarez* customer provides a pick-up address, and the network generates and sends a location parameter to the fleet. Ex.1013, 9:54-58 ("In Step 122, when a request for dispatch 28 is received by the dispatch center 16, the dispatch controller 18 of the dispatch center 16 generates the location parameter 50 identifying the assignment location 66 of the request for dispatch 28."); see Ex.2001, ¶133.

*Mezhvinsky* teaches a web-based system where mobile service providers report their location to a web server. Ex.1017, 5:21-29. A web user specifies an area, and the browser displays providers within that area for selection, communication,

and payment. *Id.*, 10:2-29; 13:28-14:2; 14:11-22. The user interface may be through a cellphone or PDA. *Id.*, 13:17-26. However, *Mezhvinsky* does not involve sending notifications to portable remote units in specific regions; notifications are sent only to a user-selected service provider. The *Mezhvinsky* customer simply provides an area to view provider locations and selects one. *See* Ex.2001, ¶134.

Saurez's location parameter 50 and criteria parameter 62 in the assignment message 32 do not define the "geographic boundary information" where the notification should be sent. Rather, the message is sent to all vehicles, regardless of their location relative to these parameters. *See* Ex.2001, ¶135. Instead, the parameters determine which drivers are alerted to the assignment request. Ex.1013, 10:55-66; Ex.2001, ¶135. Therefore, neither *Suarez* nor *Mezhvinsky* disclose this element. While *Mezhvinsky* allows a user to specify a search area for the webserver, this claim element requires information specifying a region where a message should be sent to a portable remote unit, not just a search area. *Mezhvinsky* sends a message only to a particular vehicle selected by the user. Ex-1017, 14:11-16; . Ex.2001, ¶136.

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

*Suarez-Mezhvinsky* does not teach Element 8[D]. *Mezhvinsky* allows the user to specify what area they wish to see displayed on their screen. But the end user only selects a specific mobile service provider to whom a message should be sent-

the system does not notify providers by geographic area or teach how to do so. Likewise, *Suarez* can send messages to any vehicle in the fleet but does not disclose a mechanism to send a notification to portable remote units in a given geographic boundary or teach how to do so. See Ex.2001, ¶137. Sending a message to a specific vehicle or to every vehicle is not the same as sending messages to a specified region. Ex.2001, ¶138.

- f. 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*'s assignment manager 58 of wireless communication device 36 identifies the receipt of an assignment message 32 and determines whether it meets the location criteria in the message. *Suarez* does not meet this limitation because the "region" in the claim refers to a wireless consumer-specified region where messages are sent, which *Suarez* does not disclose. Additionally, *Suarez* also does not disclose that device 36 is a hand carried telecommunication device used in a cellular mobile telecommunication network available to the general public, for the reasons previously discussed. See Ex.2001, ¶140.

\* \* \*

For all the foregoing reasons, Petitioner's Ground 2 is not likely to succeed, and the Petition should be denied.

**D. Claims 8, 12 and 13 are not rendered obvious by Heedfeld (Ground 3)**

**1. Independent Claim 12**

- a. Element 12[Pre]: A method for notifying portable mobile remote units within a geographic region in a wireless communication system comprising:**

Petitioner does not take a position on whether the preamble of claim 12 is limiting. The preamble is necessary for giving life, meaning, and vitality to the claims because it specifies that the method is for notifying portable mobile remote units within a geographic region in a wireless communication system. *Heedfeld* does not disclose such a method; instead, like *Suarez*, *Heedfeld*'s dispatch system sends requests to all vehicles in the fleet, regardless of their location, to identify which are within the specified region. Each vehicle's radio data terminal analyzes the request and returns its location if within the area. Ex.1018, Abstract, 4:32-39, 4:48-54, 5:4-11; see also Ex.2001, ¶¶141-143.

Uber acknowledges *Heedfeld* sends "coordinate data specifying a selected area to all of the units" (Ex.1002, ¶200), so the claim is not met. Additionally, *Heedfeld* does not disclose that its terminal devices are cellphones or other handheld telecommunication devices used by wireless consumers of cellular communication networks. Ex.2001, ¶144.

The '726 Patent teaches providing location-based services that use cellular network infrastructure to carry out methods, including directly polling units in specific geographic regions. Ex.1001, 7:47-8:56; 10:45-49. Uber acknowledges the '726 Patent describes sending notifications to portable mobile remote units within a region means that it is "sent to specific areas" to locate units in that area. Ex.1002, ¶194. However, *Heedfeld*'s system architecture does not indicate the network is a cellular network or sends notifications to specific network areas. Ex.2001, ¶¶144-145. Sending pages to all units and searching for, identifying or getting responses from those that meet a certain location criterion, as taught by the prior art, is different from directly polling units in specific areas for their locations, as taught in the '726 patent. *Id.*, ¶146.

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

*Heedfeld* does not disclose Element 12[A] The portable remote units in the '726 Patent are cellphones or other hand carried telecommunication units that use cellular networks available to the general public to communicate. The '726 Patent also teaches that the network is divided into individually pollable regions for the locations of PRUs. *Heedfeld* does not disclose such a pool of portable mobile remote units that are able to communicate with the network to establish their geographic

location “within the system.” A POSITA would understand their location “within the system” refers to a specific geographic region of the network that can be individually polled. *Heedfeld*’s radio terminals may establish a geographic location but establish no location “within the system” location since *Heedfeld*’s network is not divided into individually pollable regions so that each geographic location can also represent a location “within the system.” Ex.2001, ¶147.

- c. **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;**

*Heedfeld* does not disclose Element 12[B]. Uber asserts that *Heedfeld* specifies and forwards geographic boundary information to send notifications to one or more portable remote units (Ex.1002, ¶205), but this is incorrect. *Heedfeld*’s information is merely a “search region,” similar to other prior art. As Mr. Andrews notes, *Heedfeld* communicates a request to each mobile unit’s terminal device to establish its location within the system, and the device compares its position to coordinate data to see if it is within the selected area. *Id.*, ¶204; Ex.1018, 2:15-32. *Heedfeld* does not disclose specifying and forwarding geographic boundary information to the network for sending notifications to specific regions. Additionally, Mr. Andrews argues that an operator selecting a search region at the

control center meets the “specifying and forwarding” requirement because the control center is a network entry node. But because this action does not specify a region where the notification should be sent, so *Heedfeld* does not disclose this claim element. See, Ex.2001, ¶¶148-150.

**d. Element 12[C]: iii) forwarding said notification to portable mobile remote units within said region;**

*Heedfeld* does not disclose Element 12[C] because the notification is sent to all units regardless of region, not specifically to those within the region. Mr. Andrews’ annotations to *Heedfeld*’s Fig. 2 in Ex.1002, ¶208 distort the actual teachings by suggesting that notifications are sent only to terminals 10 and 12 and not to terminal 14. In reality, as shown in Fig. 2, notifications are sent to all terminals, including terminal 14, even if it is outside the “geographic region.” *Heedfeld*’s Fig. 1 shows a rectangular boundary provided by the control center as a search parameter, while Fig. 2 shows a circular boundary. *Heedfeld* describes a fleet of mobile units communicating with a control center via a radio data transmission network. Ex.1018, 4:32-34; see, Ex.2001, ¶151. *Heedfeld* itself recognizes that all vehicles in the fleet receive the request, each vehicle’s terminal checks whether the vehicle is located within the selected area 26 or not, and “*for the majority of the vehicles in the fleet, represented by vehicle 14 in the example shown, the check*

*shows that the vehicle is outside the selected area 26. In this case, no further reaction takes place in the terminal 18.:*” See Ex.1018, 5:4-19 (actual line numbers not printed ones); *see also*, Ex.2001, ¶152. Therefore, the entire fleet is polled, regardless of whether it is in the specified boundary or not. And the fact that notifications are sent only to portable remote units within specific boundaries does not negate the desirability for such units to still verify their location before responding. *See*, Ex.2001, ¶¶153-155.

- e. 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).**

*Heedfeld*’s radio data terminal identifies it received a request from the control center and determines whether its location meets a location criterion. But this claim recites “said notification,” which refers to a notification sent to a specific region. *Heedfeld* does not disclose this element because the network does not send the notice to a specific region. *See*, Ex.2001, ¶156.

**2. Dependent Claim 13**

- a. 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.**

*Heedfeld*'s radio data terminal responds to the control center if its location meets the location criteria. But this claim recites "if said portable mobile remote unit (iv) exist within the geographic boundary defined by said region." This refers back to step (iv) of claim 12, which refers again to a notification that is sent to a specific region. *Heedfeld* does not disclose this element because its notice is not sent to a specific region, as discussed above regarding claim 12. Ex.2001, ¶157

**3. Independent Claim 8**

- a. Element 8[Pre]: A communication system comprising:**

Patent Owner does not dispute that *Heedfeld* discloses a communication system, but not the claimed communication system for reasons explained below.

- b. Element 8[A]: i) a network of communication resources;**

Patent Owner does not dispute that *Heedfeld* discloses a network of communication resources, but not the communication resources required to meet other claim elements, which will be discussed regarding those further claim elements.

- c. **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;**

*Heedfeld* does not disclose Element 8[B]. The portable remote units in the '726 Patent are cellphones or other hand carried telecommunication units that use cellular networks available to the general public to communicate. The '726 Patent also teaches that the network is divided into individually pollable regions for the locations of PRUs. *Heedfeld* does not disclose such a pool of portable mobile remote units that are able to communicate with the network to establish their geographic location “within the system.” A POSITA would understand their location “within the system” refers to a specific geographic region of the network that can be individually polled. *Heedfeld*’s radio terminals may establish a geographic location but establish no location “within the system” location since *Heedfeld*’s network is not divided into individually pollable regions so that each geographic location can also represent a location “within the system.” Ex.2001, ¶160.

- d. **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;**

*Heedfeld* does not teach Element 8[C]. *Heedfeld* discloses no means for a wireless consumer to specify and forward to the network geographic boundary information describing a region within the coverage area of the network where the network should send a notification to one or more of the portable remote within that region. Ex.2001, ¶161.

The dispatch operator is not a wireless consumer as a POSITA would understand that term because the dispatch operator is not operating as a member of the general public who is a consumer of a cellphone or another hand carried device that uses a cellular network for communication. Nor is the fleet vehicle driver who is using a radio data terminal. Moreover, as Mr. Andrews acknowledges, the area specified by the dispatch system operator (or driver) is not a specific area to which the notification is directed but rather a location criteria that each vehicle in the fleet receives, regardless of their location. Therefore, *Heedfeld* discloses a search

parameter, like *Suarez*, and not the required means because the notification goes to all vehicles in the fleet.<sup>15</sup> Ex.2001, ¶162.

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

*Heedfeld* has no means to forward the notification to mobile remote units within the specified region and does not break its network into individually pollable regions for the locations of PRUs within that region, nor does it have any means of sending a notification to the PRU within such a region. Mr. Andrews' analysis does not show otherwise, merely repeating the same error by not highlighting the notification sent to a majority of vehicles outside the location search criteria, represented by unit 14. Moreover, Mr. Andrews' argument in Ex.1002 ¶220 that

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<sup>15</sup> Mr. Andrews again incorrectly implies that the notification is only sent to the vehicles in specified search area despite *Heedfeld*'s clear teaching that the notification is sent to **all units** in the fleet, even those outside of the specified search area, including terminal 14 which represents the numerous terminals that are not located in the boundary. Compare, Ex.1002, ¶217, annotated Fig. 2 with Ex.1018, 5:12-14 ("For the majority of the vehicles in the fleet, represented by vehicle 14 in the example shown, the check shows that the vehicle is outside the selected area 26"); 6:1-9 ("The selected area 32 here is a circle with a certain radius around the target location 24. The central unit 16 specifies the selected area by indicating the coordinates of the target location 24 and the radius of the circle. The units 10, 12 and 14 then check their own position using the GPS system (not shown in Fig. 2) and calculate their distance to the target location 24. If this distance is greater than the specified radius, as in the example shown for unit 14, the request from the control center is ignored.").

*Heedfeld*'s teaching is the same as the '726 is incorrect because *Heedfeld*'s specified area is only a search area, not one where the notification is sent. Ex.2001, ¶¶163-164.

- f. **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).**

*Heedfeld* does not disclose Element 8[E] because the notification in *Heedfeld* is not a notification that is sent to a particular region. Therefore, while *Heedfeld* discloses a means to identify a notification, it is not the claimed notification. Likewise, *Heedfeld* does not disclose a means to verify whether the portable remote unit exists within “said region” because this refers to region to which the notification is to be sent. As previously discussed, *Heedfeld* has no such regions to which the network directs the notice, and Mr. Andrews’ analysis does not show otherwise. Ex.2001, ¶165.

\* \* \*

For all the foregoing reasons, Petitioner’s Ground 3 is not likely to succeed and the Petition should be denied.

- E. **Claims 1 is not rendered obvious by Layson’757 in view of Layson’213 in further view of IllinoisLaw (Ground 4)**

**1. A POSITA would not have been motivated to make the proposed combination with a reasonable expectation of success.**

Claim 1 of the '726 Patent is not disclosed or rendered obvious by the proposed combination of *Layson*'757-*Layson*'213-*IllinoisLaw*. *Layson*'213's correlation database correlates crime incident data, including crime incident dispatch data from CAD systems and crime incident investigative data from RMS within law enforcement agencies, with offenders' locations to determine if a given offender was at the location of a criminal incident when it occurred. Ex.1008, 8:39-43, 20:63-21:4. The correlation database does not relate to victims' locations. *See also*, Ex.2001, ¶167.

Uber's assertion that a POSITA would be motivated to enter victim's location information as a crime incident is unreasonable in order to identify potential criminal stalkers is not reasonable. A victim's location does not constitute a crime incident, even if the victim suspects they are being stalked. *See* Ex.2001, ¶¶169. Uber's proposed modification would necessitate updating the victim's location as a new crime incident every time it changes. This would exponentially increase the amount of data requiring correlation, potentially demanding updates hundreds of times per day for each victim. Implementing such a system would be a significant challenge, as it would require continuous comparison of every victim's and offender's location, overwhelming the system's processing capabilities. *Id.*, ¶¶169-171.

Tracking the location of every offender and comparing it with each victim, regardless of their relationship, would be an impractical and unreasonable expectation for a POSITA, both in terms of feasibility and alignment with *Layson's* goals. *Id.*, ¶¶169-171. Such a proposed modification would also conflict with *Layson'757's* teachings, protect a victim from an associated offender, not from unrelated individuals. Therefore, no POSITA would be motivated to pursue such a modification, nor would they reasonably expect to achieve success given the processing burden, power consumption, and complexity involved. *Id.*, ¶¶169-171. At a minimum, for the system to be feasible, it would need to limit the location data it obtained to that from a PRU within a specified radius of the victim, as required by the claim. *Id.*, ¶171. However, Mr. Andrews does not suggest that his proposed combined system teaches limiting the data in this manner. Instead, he argues the opposite, asserting that the combined system “could be used to identify potential stalkers from the set of offenders for whom the system stores location data.” Ex.1002, ¶237. He further states that “*Layson'213's* correlation database would then output a table report identifying one or more offenders (potentially unknown to the potential stalking victim, but subject to location monitoring as a result of a prior arrest) who were located in proximity to two or more of the potential victim's positions at or around the same time as the victim.” Ex.1002, ¶242. Therefore, no

POSITA would be motivated to pursue such a modification, nor would they reasonably expect to achieve success given the processing burden, power consumption, and complexity involved.

Even if the POSITA were motivated to make the modification, it would not lead to the practice of the claimed invention because the network would compare the victim's location to all offender locations over open-ended distances and periods of time, rather than limiting the comparison to a specified radius and time period. See Ex.2001, ¶173.

Mr. Andrews does not suggest that his posited system has a pre-specified minimum tracking distance and tracking period for making determinations, as required by Claim 1. He only suggests that a POSITA would have included a "minimum distance" threshold in *Layson*'757's system based on *IllinoisLaw*. However, *IllinoisLaw* does not teach a pre-specified minimum distance as required by Claim 9; it only defines stalking generally in terms of "following and maintaining surveillance as the victim moves." Ex.1002, ¶234. Mr. Andrews fails to address how the modified system would have a predefined tracking time period and distance to determine if stalking occurred. See Ex.2001, ¶174.

The issues are compounded by the complex scenarios Mr. Andrews describes, raising questions about how to set a buffer zone around the victim, whether it should

be uniform for all victims, and how various parameters like a restraining order or loiter time relate to capturing stalking. These issues highlight the difficulties a POSITA would face in determining parameters without undue experimentation based solely on *IllinoisLaw*, leading to a reasonable expectation of success in capturing stalking occurrences. *See* Ex.2001, ¶¶175-179.

Additionally, the posited combination does not practice Claim 1 because it lacks an actual pre-specified tracking period and does not define a maximum radius for tracking within a specified minimum distance, as will be discussed element-by-element below.

\* \* \*

For all the foregoing reasons, Petitioner's Ground 4 is not likely to succeed and the Petition should be denied.

**1. Independent Claim 1**

**a. Element 1[pre]: A communication system comprising:**

A POSITA reading the '726 Patent understands that it is directed to providing location-based services to wireless consumers using portable cellphones to communicate with the network via wireless service providers' cellular infrastructure. The combination of *Layson*'757-*Layson*'213-*IllinoisLaw* does disclose a communication system but not the claimed communication system, as further

discussed in the element-by-element analysis, because the offender and victim portable devices are not consumer cellphones using a wireless service providers' cellular infrastructure. On that basis, Mr. Andrews' contention that "*Layson*'757's system is of the same form as the '752 [sic] patent's communication system" (Ex.1002, ¶251) is wrong. The comparison of the respective Figure 1 of each patent shows the difference. Indeed, the portable remote units 501-508 of the '726 Patent are cellphones using cellular infrastructure, consistent with the '726 Patent's specification which describes that the invention is directed to providing location-based services to wireless consumers from the general public using mobile phones to communicate with the network via commercial cellular communication infrastructure. Ex.1001, 1:17-22 ("telecommunication services and systems", "mobile unit", "wireless industry"), 2:1-7 ("wireless consumers"), 2:20-26 ("mobile user"), 2:34-52 ("wireless subscriber", "PRU"), 3:3-29 ("mobile telecommunication system," "mobile communication targets," "communication units," "portable mobile device").

In contrast, the *Layson* systems are specialized offender/victim systems that are not cellphones available to the general public. Rather, the portable tracking device 12 in *Layson* is a specialized device "that communicates with body-worn device 20" which has "tamper detection" and has a "panic button 86" that generates

an alarm in a specialized victim/criminal offender tracking system. *See*, Ex.1007, 2:46-65; *see also* Ex.2001, ¶181.

**b. Element 1[A]: (i) a portable mobile remote unit;**

A POSITA reading the '726 Patent would understand that the portable remote units are cellphones used by the general public to communicate via cellular infrastructure. *Layson*'757-*Layson*'213-*IllinoisLaw* does not disclose such portable remote units because the offender and victim devices in these systems are not consumer cellphones. Mr. Andrews' claim that "*Layson*'757's offender portable tracking device corresponds to claimed 'portable remote unit'" (Ex.1002, ¶254) is wrong. The portable remote units in the '726 Patent are consumer cellphones using cellular infrastructure, as described in the patent's specification. Ex.1001, 1:17-22; 2:1-7; 2:20-26; 2:34-52; 3:3-29. In contrast, the portable tracking devices in *Layson*'757 are specialized devices not available to the general public, including devices with features like tamper detection and panic buttons used in a specialized tracking system. Ex.1007, 2:46-65; *see* Ex.2001, ¶182.

**c. Element 1[B]: (ii) a network of communication units;**

A POSITA would understand that the recited "communication units" in the claim are a synonymous with portable remote units, *i.e.*, the commercial cellphones

of the wireless industry to communicate voice and data using cellular infrastructure, because the terms are used synonymously in the specification. Therefore, for the same reason *Layson*’757 does not disclose element 1[B] for the same reasons it does not disclose element 1[A]. See Ex.2001, ¶183.

**d. 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;**

Patent Owner does not dispute that *Layson*’757’s portable tracking devices communicate with GPS satellites to establish their location and report it to the network. However, the asserted system of the *Layson*’757-*Layson*’213-*IllinoisLaw* combination does not disclose dividing the network into individually pollable geographic boundaries of the network (to which each PRU’s location coordinates corresponds). Therefore, the GPS location does not establish a “location within the system” as that term would be understood to a POSITA reading the ’726 Patent’s specification, which teaches that each PRU participating in the network is located within an individually pollable network boundary to establish a location within the system. Ex.1001, 3:46-62 (describing network boundaries are directly polled), 4:34-60 (explaining the cellular and GPS infrastructure used by the network); 5:47-55 (explaining the page is sent to the geographic boundary to units within that geographic boundary); 7:19-28 (again explaining page sent to the “required region”

or necessary set of required regions) 7:30-34 (explaining that the PRUs in the boundary “pick[s] up the request”); 7:47-9:12 (explaining how pages are sent out to specific areas so that a **“PRU within that area will pick up the signal and determine if it is within the radii”** (7:63-64) (emphasis added)); see Ex.2001, ¶184.

Therefore, *Layson’757-Layson’213-IllinoisLaw* does not teach establishing a location “within the system.”

- e. **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* does not teach Element 1[D]. Patent Owner agrees that *Layson’757*’s “central data-base system” is a control unit of a network control center. See, Ex.1002 at ¶265. Mr. Andrews, however, asserts that this claim element is met because the central data-base system “is configured to generate a page/poll/query for the location of offender portable tracking device” by “transmitting location constraints to those offender portable tracking devices.” *Id.*, ¶266. This is incorrect. See Ex.2001, ¶186.

The ’726 Patent describes a network divided into specific coverage areas, where each area can be individually polled for PRU locations. Neither *Layson’757* nor *Layson’213* contains a similar feature. Even if a victim has two associated

offenders, *Layson*'757 does not divide its system into pollable geographic boundaries for reporting offenders' locations in proximity to the victim, nor is there any motivation to do so. *See* Ex.2001, ¶187.

Instead, as Mr. Andrews correctly notes, the central database system contacts an offender's device to download its "schedule rules and location constraints." Ex.1002, ¶270. The offender's device uses these rules to determine its location, report it to the central database according to the schedule, and immediately alert the system if a location constraint is violated. Ex.1007, 7:3-9; 9:48-50. Mr. Andrews does not provide evidence that *Layson*'757 states that an alert includes the offender's current location, nor is there a need for such an indication, as the central database system already receives continuous location updates from the offender's device. *See* Ex.2001, ¶188.

*Layson*'757 is an offender/victim tracking system used by law enforcement to monitor whether an offender, restricted from being within a specific distance of a victim, violates that restriction by alerting the central database system. *Layson*'757 does not teach dividing its network into individually pollable boundaries for directing proximity and tracking requests to all offenders in a given boundary. *See* Ex.2001, ¶189.

Instead, as Mr. Andrews acknowledges, the central database system sends a buffer zone to an offender's tracking device based on the victim's location updates Ex.1002, ¶270. However, Mr. Andrews does not claim that this communication is based on the offender being in a specific network coverage area, as *Layson*'757 does not teach such a concept. *Layson*'757 simply states that when an offender's device enters the victim's buffer zone, it alerts the central database of this violation. *Id.*, ¶271. There is no suggestion that all offenders receive the same location constraint, as it would not be necessary for those not legally restricted from entering the buffer zone. See Ex.2001, ¶190.

*Layson*'757 can individually query each offender or victim to disclose their location, but it cannot request location information from all offenders within a geographic boundary in the manner disclosed in the '726 Patent. *Layson*'757 allows for either (a) instructing a specific offender device to alert the central database when it violates a location constraint, such as being within a specific buffer zone of a victim, or (b) individually polling each offender device for its location regardless of its location. It does not have an architecture for polling geographic boundaries for PRU locations within those boundaries, thus not meeting this claim element. See Ex.2001, ¶191.

Additionally, Mr. Andrews' claim that the central database system sends a request to all offender devices associated with a victim each time it receives an updated victim location (Ex.1002, ¶273) is factually not correct. The central system sends a location constraint parameter to a specific offender device, not to a specific boundary. See Ex.2001, ¶192. There is no requirement for a second offender device to be restrained within the same buffer zone. Even if a second device exists, it receives the location constraint regardless of its location, which may be different from the first device's area. This alone demonstrates that *Layson*'757 lacks the claimed means. *Id.* Moreover, an offender device may never trigger a location constraint violation alert, and even if it did, the alert would not necessarily include the offender's location, as both offender and victim devices continuously report their locations to the central station Ex.1007, 2:46-58; 7:15-19; 8:9-20; see Ex.2001, ¶193. Thus, the location constraint update is not a location request, contrary to Mr. Andrews' suggestion. See Ex.2001, ¶194.

Mr. Andrews' conclusion that notifying the central database that the offender's device is within the victim's buffer zone would involve the device providing its current location is incorrect. Mr. Andrews overlooks *Layson*'757's specific teachings on the data fusion process, which indicates that the central database already has the current and past locations of the offender's device due to

continuous location updates. Ex.1007, 8:9-20. Instead, Mr. Andrews refers to a general summary that mentions the offender's device immediately notifying the system of a violation, with the central database then determining the appropriate response based on its guidelines and the nature of the violation. Ex.1007, 9:48-54.

But nothing in this passage suggests any need for the offender's alert to include the offender's location in the alert. because the central database already has a current location via the continuous updates.<sup>16</sup> Mr. Andrews simply ignores the portions of the *Layson*'757 specification that the database already has a "continuous" stream of the offender's tracking device's current location through the scheduled updates. For this additional reason, the claim element is not met by either *Layson*'757 or the asserted combination.

Mr. Andrews' statement that querying the portable tracking devices for their locations as part of the "data fusion processing" in *Layson*'757 meets the claimed function (Ex.1002, ¶281) is wrong. The data fusion process involves examining the offender's current position relative to the victim's position to determine if alarms or

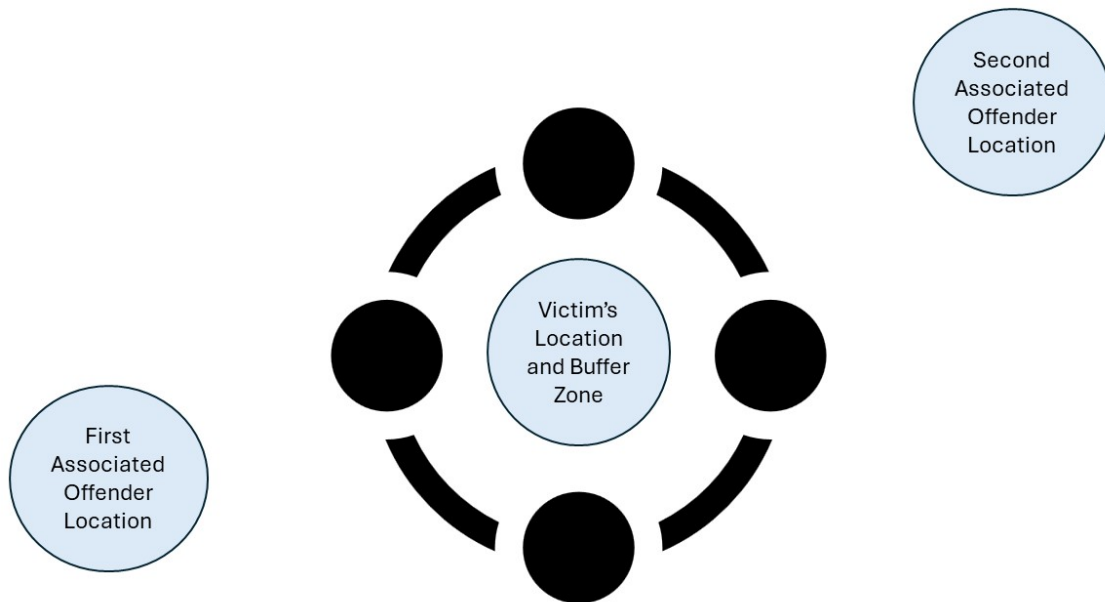
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<sup>16</sup> Rather, *Layson*'757 teaches that the task of continuously comparing its location with the location constraint is offloaded to the offender's tracking device so that the central database system need not continuously perform this calculation but rather receives an alert instead. Ex.1007, 8:21-29, 50-56 (explaining the task of making instant real-time determination when violations occur is offloaded to the offender's unit whereas the central database system performs data fusion).

commands are necessary based on their dynamic movements. Ex.1007, 8:9-19. The data fusion process does not require requesting location data because each device continuously reports its location to the central database system at deterministic intervals based on schedule rules. Ex.1007, 7:40-42; 7:14-20; 2:50-58. The central database system already has the current location information of both devices and can query any device if needed, such as when scheduled reporting fails. *Id.*, 7:58-62; see Ex.2001, ¶¶195-196.

Again, none of this activity or any other activity in *Layson*'757 meets the claim limitation because its architecture cannot meet this limitation to allow the system to poll a specific boundary of the network for the location of PRUs within that boundary at the time the poll is made, as the '726 Patent teaches and the claim element requires. *Layson* lacks any such means and Mr. Andrews' analysis fails to show otherwise. See Ex.2001, ¶¶197-198.

For example, the below diagram illustrates a victim who has two associated offenders. Both offenders receive the same location constraints relative to that victim but are not (and need not be) currently in the buffer zone when they receive the location constraint message.



See Ex.2001, ¶199. These units may never come within the buffer zone to provide an alert. Therefore, this diagram shows the unsuitability of *Layson*'757's system to the purposes of the '752 patent, which requires polling network boundaries for the locations of one or more PRUs currently within such network boundary so that the system may further process only those locations. *Id.*, ¶200.

- f. **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* does not teach Element 1[E] for the same reason as it does not teach Element 1[D].

- g. **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.**

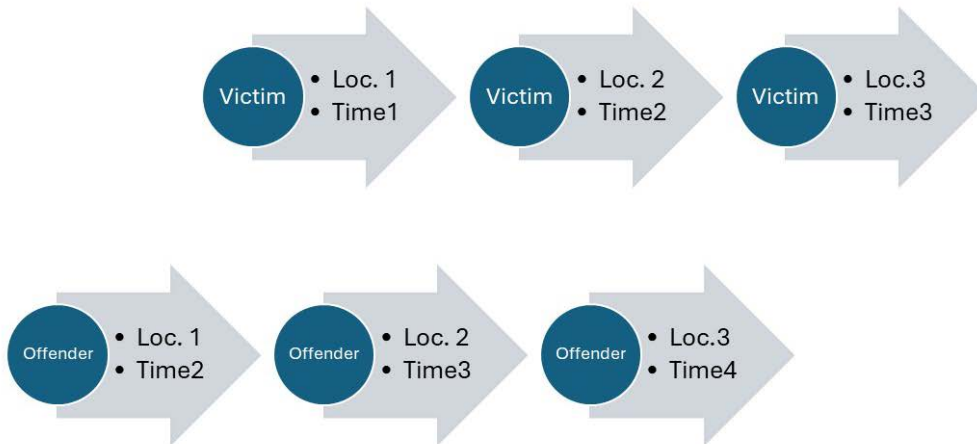
*Layson*'757-*Layson*'213-*IllinoisLaw* does not teach Element 1[F]. The '726 Patent teaches dividing a network into pollable boundaries to efficiently provide location-based services using cellular infrastructure. This element is crucial for determining PRU locations and is absent in *Layson*'757, which does not aim to enhance commercial wireless networks or their efficiency.

*Layson*'757's central database system processes location data from offender and victim tracking units at intervals. This reporting is not triggered by proximity but occurs regardless of the relative location of the devices. Mr. Andrews' claim that location reporting occurs only when devices are in proximity is incorrect. The reporting is triggered by time intervals, not proximity. Additionally, sending a location constraint does not prompt the offender device to provide its location

immediately, nor does it ensure that an alert includes the device's location. *Layson*'757 triggers a constraint violation alert if an offender enters a victim's exclusion zone. However, it does not teach reporting whether devices have maintained proximity over time while in motion.

*Layson*'757's immediate violation alerts do not align with adding a "loiter time" before reporting. Even with a loiter time, it does not address the need for tracking devices to maintain relative proximity over time and distance. The exclusion zone violation in *Layson*'757 does not require the offender and victim devices to maintain proximity while in motion. Violations can occur if the offender enters the exclusion zone or the victim moves into it, regardless of their relative motion.

*IllinoisLaw* does not teach the specific tracking algorithm of the '726 Patent. It does not require that an offender move in tandem within a certain radius of the victim during tracking.



In contrast, the '726 tracking algorithm determines whether a PRU in the same network boundary as the subject PRU remains also remains within a pre-specified radius of the subject PRU while both are moving at certain sampled time intervals over the tracking period. *IllinoisLaw* does not teach this specific technique. See Ex.2001, ¶¶202-210.

**F. Claim 2 is not rendered obvious by Layson'75Layson'213-IllinoisLaw in view of Wang (Ground 5)**

Mr. Andrews suggests incorporating *Wang*'s "borders" to stop location reporting if an offender is within an "allowed region" like home or work. Patent Owner disagrees. There's no evidence that the offender/victim system would benefit from completely stopping location reporting. A POSITA could program the system

to report less frequently when the offender is in an allowed location. It's unclear why a POSITA would want to stop location reporting entirely in these regions while arguing to combine *Layson*'757 with *Layson*'213. Without some frequency in location reporting, the correlation database couldn't rule out the offender as a suspect, especially if a crime occurred at their home or work.

To eliminate an offender as a suspect in a crime near their home or work, the system would need some location confirmation. Thus, even if aiming to conserve network resources, a POSITA wouldn't introduce technology that completely stops location reporting for significant periods, even if the offender is at home or work. See Ex.2001, ¶¶211-213.

Claim 2 recites:

**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**

Adding *Wang* does not result in the practice of the claim. *Wang* does not fill in any of the missing material in *Layson*'757-*Layson*'213-*IllinoisLaw* because *Wang* does not introduce individually pollable network boundaries of the '726 Patent or its tracking algorithm, let alone both.

*Wang*'s system introduces a "border" sent to a remote device in a fleet vehicle after it reports a location within that border to a central station. The size of the border

is based on the distance from a state line; the further from the state line, the larger the border. As the vehicle approaches the state line, it reports more frequently. The border is a circle around the reported position, so the unit is always within the border when it reports. Thus, incorporating *Wang* does not lead to non-reporting of location when the device is within the border.

Mr. Andrews again claims that the victim's tracking device in *Layson*'757 includes location constraints, citing Ex.1007, 9:35-37, which refers to "schedule rules and location constraints" for the "subject." However, this term later specifies offenders. *Id.*, 9:50-54. A victim, having no legal restrictions, would not have location constraints. Even if a POSITA were motivated to apply *Wang*'s static prohibited areas to victims, it wouldn't align with the claim. *Wang*'s teachings would result in reporting an offender's location once in a permitted area, not eliminating location reporting.

However, as previously discussed, such would not be a POSITA's motivation, because reduction in transmission bandwidth would be realized simply by less frequent location reporting in an exclusion zone and *Wang*'s single instance location reporting would probably not suffice in the context of an offender/victim system that requires continuous knowledge of an offender's and associated victim's location. Indeed, if Mr. Andrews' analysis is to be credited that the victim would have location

constraints, the system would want confirmation the offender was actually at home or at work to alert the victim to avoid those locations. *See* Ex.2001, ¶215-218.

In sum, the prior art asserted against claims 1 and 2 does not address large-scale location-based services for millions of wireless consumers via cellphones and networks. They do not efficiently handle tracking determinations in such a vast environment or teach dividing the network into individually pollable boundaries for tracking. None of them teach the tracking algorithm used in the '726 Patent. *See* Ex.2001, ¶219

\* \* \*

For all the foregoing reasons, Petitioner's Ground 5 is not likely to succeed, and the Petition should be denied.

## **V. CONCLUSION**

The Board should therefore deny institution of trial in this matter.

Dated: August 26, 2024

Respectfully submitted,

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### **CERTIFICATE OF COMPLIANCE**

Patent Owner certifies that Patent Owner's Preliminary Response contains **13367** words exclusive of a table of contents, a table of authorities, mandatory notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing, according to Microsoft Word.

Dated: August 26, 2024

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**CERTIFICATE OF SERVICE**

Petitioner has consented to electronic service by email in this proceeding. Pursuant to 37 C.F.R. § 42.6(e)(1), the undersigned certifies that on August 26, 2024, a copy of the foregoing document was served via electronic mail upon the following counsel for Petitioner at the below email addresses:

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