

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ORACLE CORPORATION,
Petitioner

v.

PARKING WORLD WIDE LLC,
Patent Owner

Case No.: IPR2023-00385
U.S. Patent No. 10,438,421
Original Issue Date: October 8, 2019

Title: PARKING STATUS SYSTEM

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,438,421
PURSUANT TO 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42**

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LISTING OF EXHIBITS

EX. NO.	DESCRIPTION
1001	U.S. Patent No. 10,438,421 to Bashani (the “421 Patent”)
1002	File History of U.S. Patent No. 10,438,421 (the “421 FH”)
1003	Declaration of Joseph Paradiso (“Paradiso Decl.”)
1004	Curriculum Vitae of Joseph Paradiso
1005	U.S. Patent Appl. No. 2006/0059037 (“Ivey”)
1006	Japanese Patent Publication No. JP2008-217835 (“Matsumoto”)
1007	Certified English language translation of Japanese Patent Publication No. JP2008-217835 (“Matsumoto”) and associated translator’s declaration
1008	U.S. Patent Application Publication No. 2008/0114675 (“Ward”)
1009	U.S. Patent No. 7,123,166 (“Haynes”)
1010	U.S. Patent Application Publication No. 2006/0170566 (“Slemmer”)
1011	U.S. Patent Publication No. 2006/0250278 (“Tillotson”)
1012	Complaint (Dkt. 1) filed in <i>Parking World Wide LLC v. City of Clayton</i> , No. 4:22-cv-01373, dated December 26, 2022
1013	Complaint (Dkt. 1) filed in <i>Parking World Wide LLC v. City of St. Louis</i> , No. 4:22-cv-01252, dated November 22, 2022
1014	Complaint (Dkt. 1) filed in <i>Parking World Wide LLC v. City of San Francisco et al.</i> , No. 4:21-cv-01499 (E.D. Mo.), dated December 23, 2021
1015	Memorandum and Order (Dkt. 55), filed in <i>Parking World Wide LLC v. City of San Francisco et al.</i> , No. 4:21-cv-01499 (E.D. Mo.), dated July 21, 2022

EX. NO.	DESCRIPTION
1016	Plaintiff's Notice of Dismissal (Dkt. 57), filed in <i>Parking World Wide LLC v. City of San Francisco et al.</i> , No. 4:21-cv-01499 (E.D. Mo.), dated August 15, 2022
1017	Summons to Oracle, Inc. with proof of delivery issued in <i>Parking World Wide LLC v. City of San Francisco et al.</i> , No. 4:21-cv-01499 (E.D. Mo.)
1018	Case Docket Printout of <i>Parking World Wide LLC v. City of Clayton</i> , No. 4:22-cv-01373
1019	Case Docket Printout of <i>Parking World Wide LLC v. City of St. Louis</i> , No. 4:22-cv-01252
1020	United Nations Convention on Road Signs and Signals, Chapter XI. Transport and Communications B. Road Traffic, Vienna, November 8, 1968
1021	M.Y.I. Idris et al., <i>Smart Parking System using Image Processing Techniques in Wireless Sensor Network Environment</i> , Information Technology Journal, Vol. 8, pp. 114-127 (2009)
1022	S. Feiner et al., <i>A Touring Machine: Prototyping 3D Mobile Augmented Reality Systems for Exploring the Urban Environment</i> , Digest of Papers. First International Symposium on Wearable Computers, Cambridge, MA, USA, pp. 74-81 (1997)
1023	U.S. Patent Application Publication No. 2002/0044152 ("Abbott")
1024	G. Maubon, <i>A little bit of history from 2006: Nokia MARA project</i> , available at https://www.augmented-reality.fr/2009/03/un-petit-peu-dhistoire-de-2006-projet-mara-de-nokia/

I. INTRODUCTION

Pursuant to 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42, Petitioner Oracle Corporation (“Oracle” or “Petitioner”) respectfully requests *Inter Partes* Review (“IPR”) of Claims 1-7 (the “Challenged Claims”) of U.S. Patent No. 10,438,421 (EX1001, the “421 Patent”). There is more than a reasonable likelihood that Petitioner will prevail with respect to at least one claim.

The 421 Patent discloses and claims a parking status system. The claims are directed to displaying the payment status (paid or unpaid) of parking spaces and overlaying the payment status of vehicles upon a visual image of a street to assist with parking enforcement.

But the inventors of the 421 Patent did not invent the parking status system. The field of parking status systems was already crowded by 2010—the earliest possible priority date of the 421 Patent. By that time, such systems commonly used the databases, location services, payments systems and services, and real-time cameras that are recited in the Challenged Claims. As discussed at length below, the 421 Patent claims nothing that was not already well-known in this developed field.

Because the Challenged Claims are directed to nothing new, and to nothing more than a routine, predictable combination of known elements, Petitioner

requests that the Board institute trial and find the Challenged Claims unpatentable under 35 U.S.C. § 103.

II. REQUIREMENTS FOR PETITION FOR INTER PARTES REVIEW

A. Grounds for Standing (37 C.F.R. § 42.104(a))

Petitioner certifies that the 421 Patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR of the Challenged Claims on the grounds identified herein.

B. Notice of Lead and Backup Counsel, Service Information, and Fee information (37 C.F.R. §§ 42.8(b)(3-4), 41.10(a), 42.103)

Pursuant to 37 C.F.R. §§ 42.8(b)(3-4) and 42.10(a), Petitioner provides the following designation of Lead and Back-Up counsel:

Lead Counsel	Back-Up Counsel
Donald Daybell Registration No. 50,877 (D2DPTABDocket@orrick.com) Postal & Hand-Delivery Address: Orrick, Herrington & Sutcliffe LLP 2050 Main Street Suite #1100 Irvine, CA 92614-8255 T: 949-567-6700; F: 949-567-6710	Gerald Porter Registration No. 74,917 (PTABDocketG1P6@orrick.com) Postal & Hand-Delivery Address: Orrick, Herrington & Sutcliffe LLP 355 S. Grand Ave., Ste. 2700 Los Angeles, CA 90071 T: 213-629-2020; F: 213-612-2499 Jared Bobrow <i>Pro Hac Vice</i> to be submitted (PTABDocketJ3B3@orrick.com) Postal & Hand-Delivery Address: Orrick, Herrington & Sutcliffe LLP 1000 Marsh Road Menlo Park, CA 94025-1015 T: 650-614-7400; F: 650-614-7401

Petitioner consents to service by electronic mail at the following addresses:

D2DPTABDocket@orrick.com, PTABDocketG1P6@orrick.com,
PTABDocketJ3B3@orrick.com, and Oracle_Parking_WW_OHS@orrick.com.

Pursuant to 37 C.F.R. § 42.10(b), Petitioner's Power of Attorney is submitted.

The USPTO is authorized to charge the filing fee and any other fees incurred by Petitioner to the deposit account of Orrick, Herrington & Sutcliffe LLP: 15-0665.

C. Notice of Real-Parties-in-Interest (37 C.F.R. § 42.8(b)(1))

Petitioner is the real-party-in-interest. No other parties exercised or could have exercised control over this Petition; no other parties funded or directed this

Petition. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48759-60. Oracle does not dispute that the estoppel provisions apply to its wholly-owned subsidiaries. *See* 35 U.S.C. § 315(e).

D. Notice of Related Matters (37 C.F.R. § 42.8(b)(2))

According to USPTO assignment records, the 421 Patent is currently assigned to Parking World Wide, LLC (“PWW” or “Patent Owner”).

PWW is asserting the 421 Patent in the following district court cases:

- *Parking World Wide LLC v. City of Clayton*, No. 4:22-cv-01373, filed in the Eastern District of Missouri on December 26, 2022. EX1012 (Complaint).
- *Parking World Wide LLC v. City of St. Louis*, No. 4:22-cv-01252, filed in the Eastern District of Missouri on November 22, 2022. EX1013 (Complaint).

The 421 Patent was previously at issue in:

- *Parking World Wide LLC v. City of San Francisco et al.*, No. 4:21-cv-01499, filed in the Eastern District of Missouri on December 23, 2021. EX1014.

Oracle was named as a defendant in the 4:21-cv-01499 action, but PWW’s claims against Oracle were dismissed on July 21, 2022. EX1015. The case was dismissed on August 15, 2022. EX1016.

III. THE BOARD SHOULD NOT EXERCISE ITS DISCRETION TO DENY INSTITUTION

The Board should exercise its discretion to institute under § 325(d) because the Petition relies on art and arguments that the Examiner did not consider. In applying § 325(d), the Board uses a two-part framework: (1) determine whether the same or substantially the same art or arguments were previously presented to the Office; and (2) if so, determine whether the petitioner has demonstrated that the Office erred in a manner material to patentability of the Challenged Claims. *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (Feb. 13, 2020) (precedential).

The grounds in this Petition are not cumulative of, and are different from, those addressed by the Examiner. Ward, Matsumoto, Haynes, Slemmer, and Tillotson were not cited by the applicant or considered by the Examiner. As for Ivey, it arose during the pendency of the application and is cited on the face of the 421 Patent, but it was not discussed by the Examiner in regard to the Challenged Claims. *See Pure Storage, Inc. v. Realtime Data LLC*, Case No. IPR2018-00549, Paper 7 at 11 (July 23, 2018) (finding “no evidence of record that [prior art references] were substantively considered by the Examiner” even when submitted in an IDS and cited on the face of the patent); *Synaptive Med. Inc. v. Karl Storz Endoscopy-Am., Inc.*, No. IPR2018-00462, 2018 WL 3469195, at *4 (PTAB July 16, 2018). For the same reason, the Examiner did not consider Ivey’s teachings in

combination with any other reference and did not apply Ivey to these claims. The prosecution history, described in further detail below, indicates that the Examiner focused the prior art rejections on Applicant's own prior application and art directed to parking memberships and subscriptions. In contrast, the prior art in this Petition—like the 421 Patent—relates to parking management systems for parking enforcement and public use.

The Board also should not exercise its discretion to deny this Petition under 35 U.S.C. § 314(a). The complaint asserting the 421 Patent against Petitioner was not served on Petitioner until January 19, 2022 and the case was dismissed against Petitioner in July 2022. EX1017, EX1015. Accordingly, the Petition is timely filed under 35 U.S.C. § 315(b).

There are two pending district court actions involving the 421 Patent. Neither involves Petitioner. EX1012, EX1013. In appropriate circumstances, the Board may consider the factors set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019 Paper 11, (PTAB Mar. 20, 2020) (“*Fintiv*”), when determining whether to institute review in light of such actions. However, “where a petition presents compelling evidence of unpatentability,” the PTAB should not apply the *Fintiv* analysis. Interim Procedure for Discretionary Denials at 2 (June 21, 2022). Thus, “compelling, meritorious challenges will be allowed to proceed at the PTAB even where district

court litigation is proceeding in parallel.” *Id.*, 4-5. This is the case here: as explained below, the claims of the 421 Patent are plainly unpatentable in view of the prior art.

Separate from the strength of the Petition, both co-pending district court litigations are in their very early stages. No trials have been scheduled, no claim construction orders have issued, and no dispositive motions have been filed. *See generally* EX1018-EX1019. This also weighs in favor of institution. *See Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 8-9, 11 (PTAB June 16, 2020).

Should Patent Owner argue that the Board should exercise its discretion to deny institution, Oracle respectfully requests a reply brief.

IV. IDENTIFICATION OF CLAIMS BEING CHALLENGED (§ 42.104(B))

Petitioner requests IPR of claims 1-7.

The 421 Patent claims priority from Application No. 14/562,149, filed on December 5, 2014, which was a continuation-in-part of Application No. 13/245,385, filed on September 26, 2011, which claims priority to Provisional Patent Application No. 61/386,645, filed September 27, 2010. This Petition assumes (without admitting) that the Challenged Claims are entitled to claim priority to September 27, 2010. The 421 Patent appears to have included at least one claim which could not rely on the 645 Application for priority. *See* EX1002, 273 (Interview Summary, 1) (discussing cancellation of claims that included subject matter not recited in the 645

Application.) Accordingly, the Challenged Claims are to be evaluated under post-AIA 35 U.S.C. §§102-103. MPEP 2159.02, ¶ 1. Should the Board, however, evaluate the Challenged Claims under pre-AIA §§102-103, the references recited below are prior art under either version.

Petitioner relies on the following references, all of which are prior art under 35 U.S.C. § 102(b) (pre-AIA) and/or 35 U.S.C. § 102(a)(1) (post-AIA)¹:

- (1) U.S. Patent Appl. No. 2006/0059037 (EX1005, “Ivey”) published on March 16, 2006.
- (2) Japanese Patent Application Publication No. 2008-217835 (EX1006; Certified English Translation, EX1007, “Matsumoto”) published on September 18, 2008.
- (3) U.S. Patent Application Publication No. 2008/0114675 (EX1008, “Ward”) published on May 15, 2008.
- (4) U.S. Patent No. 7,123,166 (EX1009, “Haynes”) issued on October 17, 2006.

¹ This Petition also relies on the knowledge of a person having ordinary skill in the art (“POSITA”), which the prior art discussed herein and Dr. Paradiso’s testimony demonstrate.

- (5) U.S. Patent Application Publication No. 2006/0170566 (EX1010, “Slemmer”) published on August 3, 2006.
- (6) U.S. Patent Publication No. 2006/0250278 (EX1011, “Tillotson”) published on November 9, 2006.

Petitioner challenges the Challenged Claims as follows:

Ground	Claim(s)	Prior Art Asserted ²
1	1-3, 5, 7	Ivey in view of Matsumoto, Tillotson
2	4, 6	Ivey in view of Matsumoto, Tillotson, Slemmer
3	1-3, 5, 7	Ward in view of Haynes, Tillotson
4	4, 6	Ward in view of Haynes, Tillotson, Slemmer

These grounds are supported by the Declaration of Dr. Joseph Paradiso (EX1003, “Paradiso Decl.”).

V. THE 421 PATENT AND ITS PROSECUTION HISTORY

A. Technology Background Before the 421 Patent

The 421 Patent relates to the combination of parking management systems and augmented reality (“AR”). AR is the supplementing and/or overlaying (i.e. “augmenting”) of an individual’s view or experience of the real world. Paradiso Decl., ¶¶ 55-63. In the context of the 421 Patent, AR refers to the displaying of digital content (e.g., text, images, or videos) on images of the real world. *Id.*, ¶¶ 56-58.

² Petitioner also relies on the knowledge of a POSITA for all grounds.

Parking management systems were well-known prior to the filing of the 421 Patent in 2010. *See, e.g.*, 421 Patent, 3:3-8, 3:15-16, 2:30-38, 2:60-3:2, 3:19-22; Paradiso Decl., ¶¶ 47-54. Additionally, AR applications on handheld device, such as cell-phones, were available starting in the early 2000s. Paradiso Decl., ¶¶ 58-62; EX1022 (“Feiner”); EX1023 (“Abbott”); EX1024 (“Maubon”). The AR applications were capable of using sensors in the handheld device, including GPS and wireless sensors as well as the device’s video camera, to provide mixed-reality content relevant to a user’s location and/or surroundings. Paradiso Decl., ¶ 60; *Feiner*, 1, 3-4. And AR devices were also well-known to be used in parking management systems, such as in *Matsumoto* and *Haynes*. Paradiso Decl., ¶ 60; *Matsumoto*; *Haynes*. Using databases in parking management systems was also well-known. Paradiso Decl., ¶¶ 65-66.

B. 421 Patent Background

The 421 Patent, entitled “Parking Status System,” discloses and claims a parking status system displaying the payment status (paid or unpaid) of parking spaces and overlaying the payment status of vehicles upon a visual image of a street to assist with parking enforcement. The parking status system also accepts payments for parking spaces, including prepayment and subscription payments. 421 Patent, 4:19-22; 5:50-62.

As explained in Dr. Paradiso's declaration, before the earliest possible priority date for the 421 Patent, the field of parking status systems and the use of augmented reality were well-established. Paradiso Decl., ¶¶ 47-66. The field was crowded and employed well-understood concepts that were predictable and routinely mixed and matched to achieve a POSITA's design goals. *Id.*

The 421 Patent itself recognizes that parking status systems were known in the art and that they included many features claimed in the 421 Patent. The 421 Patent admits that it was known for parking status systems to show a parking space's payment status (paid or unpaid) on an electronic map (421 Patent, 3:3-8) and to display graphical information about the parking space (*id.*, 3:15-16). The 421 Patent also admits that it was known to accept payments for parking spaces using coins or cashless payments (via a mobile phone payment system, a smart card loaded with funds, or by wireless/web communications). *Id.*, 2:30-38, 2:60-3:2, 3:19-22. The 421 Patent also admits that it was known to use a subscription model to accept payment for parking spaces, including prepayment. *Id.*, 3:19-23. The 421 Patent also admits that it was known for parking enforcement officers to manually use location and payment status information to determine if a parking space is paid for. *Id.*, 2:46-52.

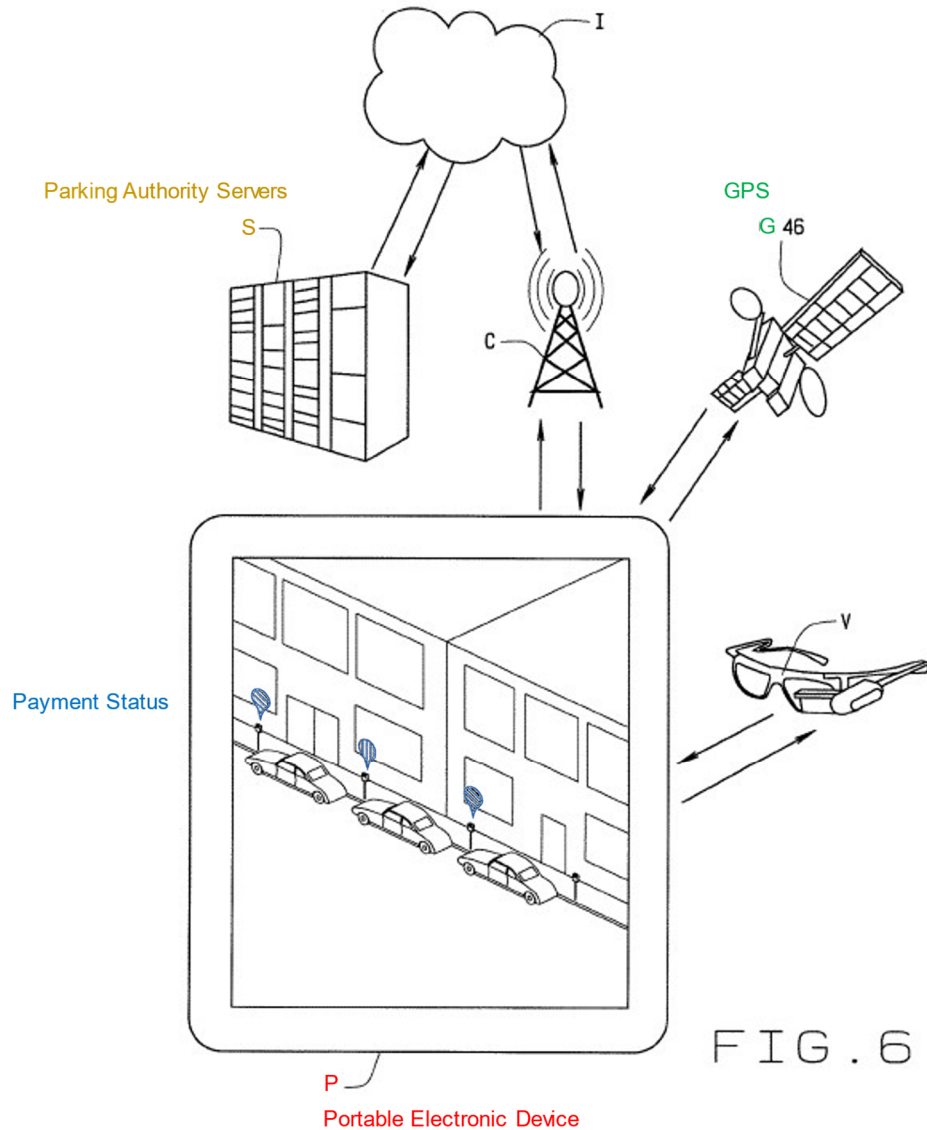
C. Problem Allegedly Addressed by the 421 Patent

The 421 Patent asserts that there was a need for “a parking status system that visually indicates parking meter status of vehicles in the field of view of a parking control officer while stationary or moving.” 421 Patent, 4:10-12.

D. The Alleged Invention

The 421 Patent describes a parking payment status system comprising a server with two databases (parking spaces and payment status) and a portable electronic device. The system determines the payment status (paid or unpaid) of parking spaces near a user of the portable electronic device and displays the payment status in a real-time camera view on the screen of the device. 421 Patent, 16:62-67; *see also id.*, 15:7-16:39.

Fig. 6 (*below*) shows the portable electronic device screen and the payment status of the parking spaces near the user. 421 Patent, Fig. 6 (annotated below); 13:28-49, 14:7-21.



The portable electronic device (P) communicates (as at C) via the internet (I) to the parking authority servers (S). 421 Patent, 13:34-36. The server (S) knows the parking space locations and cross references the portable electronic device (P)'s location, through GPS (G). *Id.*, 9:8-12. The server (S) provides to the user the payment status of the nearby parking spaces. *Id.*, 9:12-15. The method composes the resulting scene by displaying the payment status of the nearby

parking spaces upon the real-time camera view on the screen of the portable electronic device (P). *Id.*, 9:34-36, 16:62-67. Paradiso Decl., ¶¶ 67-70.

E. Prosecution History

The Challenged Claims issued with few amendments. EX1002, 319-322.

In a Pre-Interview First Office Action, the Examiner objected to and rejected the claims on several grounds, including 35 U.S.C. § 103. EX1002, 80-89. The Examiner based the obviousness rejection on U.S. Patent Publ. No. 2012/0078686 to Bashani and WIPO Publ. No. 2005/086098 to Fraier. *Id.*

Following an interview with the Examiner, the Applicant incorporated the “real time view” limitation into the independent claims and argued that these amendments distinguished the prior art. *Id.*, 241-249.

In response, the Examiner again rejected the claims on 35 U.S.C. §§ 102 and 103 grounds over Bashani because of a defect in Applicant’s priority claim. EX1002, 262-269. Applicant eventually corrected its claim, and in response to the Applicant’s amendments and the corrected priority claim, claims 1-7 issued. *Id.*, 330-338. Paradiso Decl., ¶¶ 71-75.

VI. CLAIM CONSTRUCTION

The Board applies the same *Phillips* claim construction standard that is used in federal district court. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). For purposes of this Petition, Petitioners submit that the terms of the 421

Patent's claims do not require further construction and can be afforded their plain and ordinary meaning. *See* Paradiso Decl., ¶ 78. The below sections comparing the claims to the prior art include further discussion of the plain and ordinary meaning of certain claim terms. *Id.*, ¶¶ 115-386.

VII. ORDINARY LEVEL OF SKILL IN THE ART

A person of ordinary skill in the art (“POSITA”) at the time of the alleged invention would have had at least a Bachelor’s Degree in computer science, electrical engineering, or a related subject, and two years of experience working with augmented reality, portable electronic devices, mobile computing, databases, computer networks, or related technologies. A more advanced degree can substitute for work experience. This POSITA would be aware of and generally knowledgeable about the structure and operation of augmented reality devices as well as different databases and computer networks. Paradiso Decl., ¶¶ 40-43.

VIII. DESCRIPTION OF THE PRIOR ART

A. Ivey

U.S. Patent Appl. No. 2006/0059037 to Ivey et al. (EX1005, “Ivey”) is entitled “Local Enforcement of Remotely Managed Parking Payment Systems.” Although cited, Ivey was not discussed during prosecution.

Just like the 421 Patent, Ivey discloses and explains local enforcement of remotely managed parking payment systems, including the use of a parking management computer system enabling the parking control officer to verify the

payment status of multiple parking locations simultaneously with the status of parking spaces indicated upon a map:

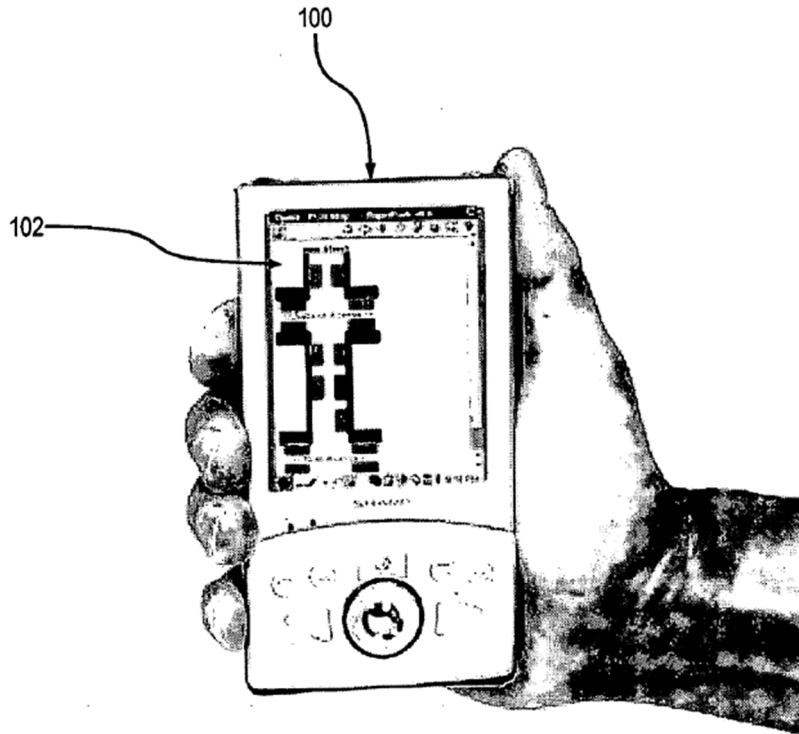


FIGURE 1

Ivey, Fig. 1; *see also* Ivey, Abstract, [0020].

The parking payment status map 100 is presented on a display of a hand-held computer 102 carried by a parking control officer. Ivey, [0020]-[0021]. The parking payment status map 100 includes spatially-related representations of parking spaces and such representations indicate a paid or unpaid state of each represented parking space (*e.g.*, paid spaces in green and unpaid in red). Ivey, [0022], Fig. 3 (annotated below).

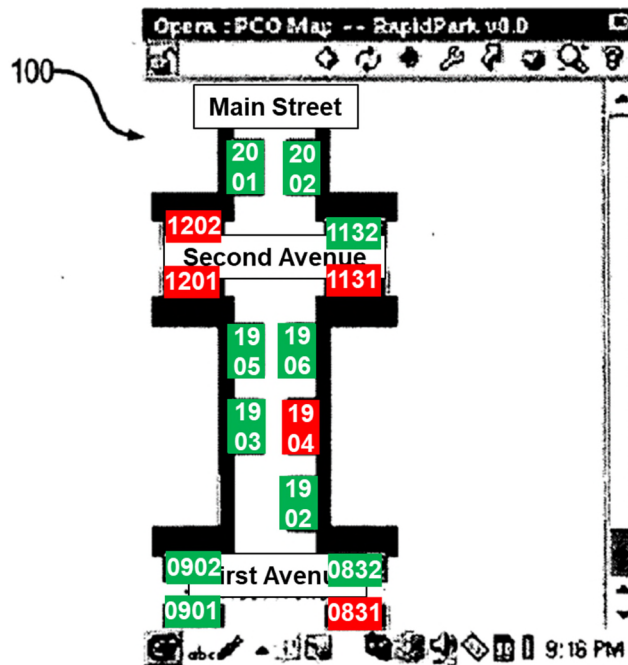


FIGURE 3

Accordingly, the parking control officer receives parking payment status information for multiple parking spaces simultaneously. Ivey, [0020]. Paradiso Decl., ¶¶ 82-88

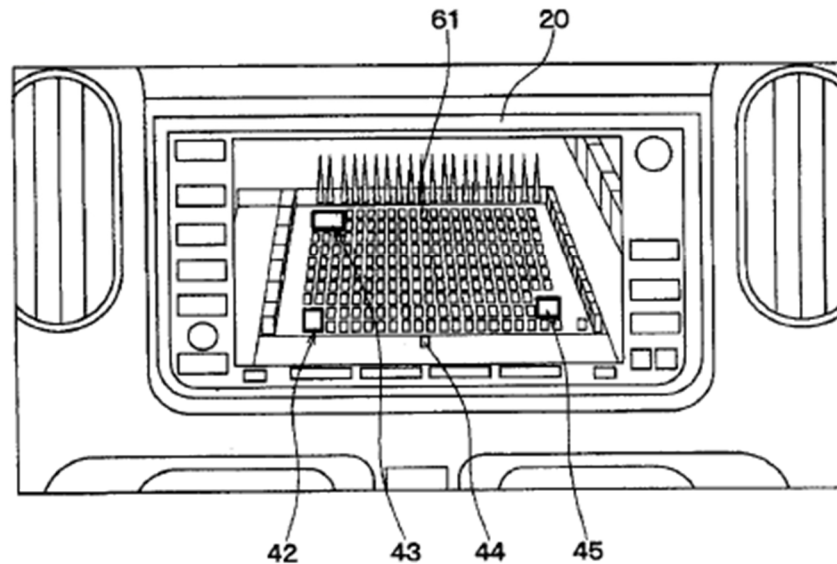
B. Matsumoto

Japanese Application No. 2008/217,835 to Matsumoto et al. (EX1007,³ "Matsumoto"), is entitled "Parking Lot Guidance System." Matsumoto was not discussed during prosecution.

³ EX1007 is the Certified Translation of Matsumoto. *See also* EX1006.

Matsumoto is a parking lot guidance system that includes a live-action image display function that shows the user the position of vacant parking spaces in a parking lot:

【 図 6 】



EX1006, Fig. 6; *see also* Matsumoto, [0006], [0061].

The system disclosed in Matsumoto identifies the position of a vacant parking space upon a live-action image. Matsumoto, [0060]. The system receives a live-action image of a parking lot. Matsumoto, [0060], Fig. 3. The system then processes the image and generates “a vacant space-highlighted live-action image.” Matsumoto, [0060], Fig. 3. The generated image includes a visual indicator superimposed over the live-action image to identify the location of vacant parking spaces. Matsumoto, [0060].

For example, the visual indicator of a “bold line” may be superimposed on the image of the vacant parking space. In addition, the current position of the user’s vehicle may also be highlighted as part of the generated live-action image. Matsumoto, [0060]. Paradiso Decl., ¶¶ 89-95.

C. Ward

U.S. Publ. No. 2008/0114675 to Ward (EX1008, “Ward”) is entitled “Parking Payment System Using a Cell Phone or Other Mobile Device.” Ward was not discussed during prosecution.

Ward, like the 421 Patent, is directed to a parking information system that includes an enforcement device which displays “a graphical user interface (GUI) that identifies a plurality of parking spaces and indicia associated with each of the plurality of parking spaces.” Ward, [0007]. “[T]he indicia indicate whether a parking fee has been paid for the associated parking space.” *Id.*

Ward also uses GPS and “layers” of data to present an overlaid view (augmented reality) to users:

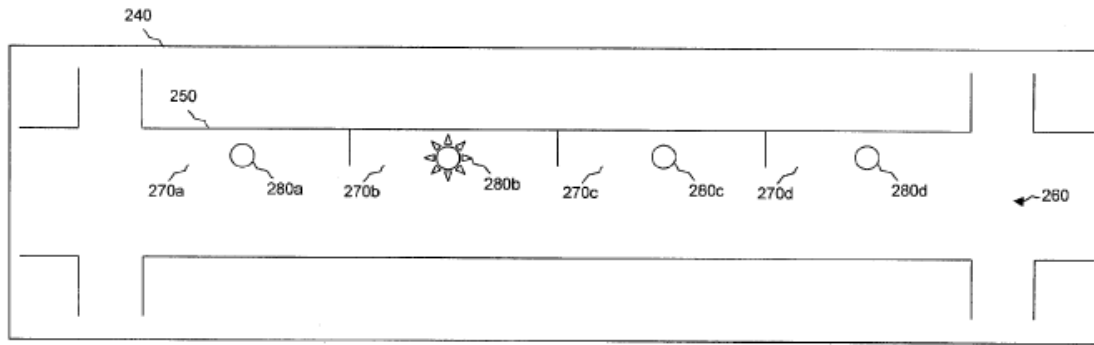


Figure 3b

Ward, Fig. 3, [0046]-[0049].

FIG. 3b above illustrates this overlaid view. “The screen 240 includes a map 250.” Ward, [0046]. “[The] virtual street 260 corresponds to the actual street 200 and a plurality of virtual parking spaces 270 correspond to the actual parking spaces 210.” *Id.* “An indicator 280 is associated with each of the virtual parking spaces 270 to provide a graphical depiction of whether a fee has currently been paid for the parking meter 20 associated with the actual parking space 210 depicted by the virtual parking space 270.” *Id.* Specifically, “when a fee is paid for one of the parking meters 20, the corresponding indicator 280 will provide an indication that the fee has been paid.” *Id.*; Paradiso Decl., ¶¶ 96-101.

D. Haynes

U.S. Patent No. 7,123,166 to Haynes et al. (EX1009, “Haynes”) is entitled “Method for Managing a Parking Lot.” Haynes was not discussed during prosecution.

Haynes is directed to a system for displaying dynamic parking space information in real-time:

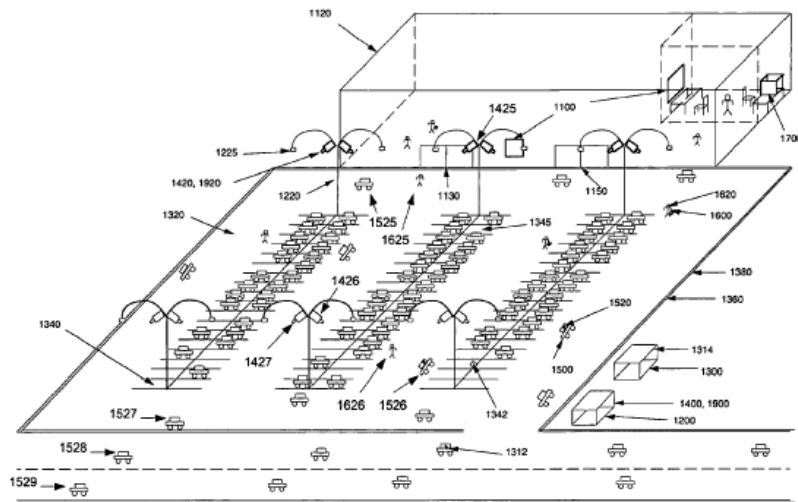


Fig. 1

Haynes, Fig. 1.

Haynes discloses the display on a personal interaction device of a variety of different representations of a parking lot, including displaying an actual representation (*i.e.*, a video image) of the parking lot depicted from a specified or variable location such as out the front windshield of a vehicle. Haynes, 12:62-13:8, 13:33-43. This representation can be dynamically updated in real time. Haynes, 13:33-43. This representation can be enhanced with additional data about the parking spaces. *Id.*, 13:36-43; Paradiso Decl., ¶¶ 102-105.

E. Slemmer

U.S. Patent Publication No. 2006/0170566 (EX1010, “Slemmer”) is entitled “Automated Parking Director Systems and Related Methods.” Slemmer was not discussed during prosecution.

Slemmer discloses a method of directing parking in a parking lot, including providing space location data to the driver of a vehicle. Slemmer, [0039]. In addition, Slemmer discloses audibly communicating parking space location data. *Id.*, [0040]; Paradiso Decl., ¶¶ 106-108.

F. Tillotson

U.S. Patent Publication No. 2006/0250278 (EX1011, “Tillotson”) is entitled “System and Method for Assessing Parking Space Occupancy and For Reserving Same.” Tillotson was not discussed during prosecution.

Tillotson discloses a method for determining the availability of parking spaces, reserving one or more of such available parking spaces, and paying monthly subscriptions for parking spaces. Tillotson, Abstract, [0044], [0065]. Tillotson teaches a parking space information and reservation system (PSIRS), which includes an operations center, which in turn includes a parking database and a user account database. *Id.*, [0023]. The PSIRS includes users who can be subscribers who have paid a periodic charge for access to the PSIRS, users who pay a per-use charge, and/or users who are provided access for free. *Id.*

Tillotson discloses a system that accepts “payment for access to the PSIRS to allow reservation of parking spaces..., or for access to the parking spaces... themselves.” *Id.*, [0065]. Tillotson also discloses several methods of electronic payment for the parking spaces, including that “[i]ndividual users [] may pay a flat monthly subscription rate, a fee-per-service with monthly billing, or a payment at time of use via online credit card data or services like PAYPAL.” *Id.*; Paradiso Decl., ¶¶ 109-114.

IX. GROUND 1: IVEY IN VIEW OF MATSUMOTO, TILLOTSON, AND THE KNOWLEDGE OF A POSITA RENDERS OBVIOUS CLAIMS 1-3, 5-6

The combination of Ivey, Matsumoto, and Tillotson, when considered in view of the knowledge of a POSITA, renders claims 1-3 and 5-6 obvious. Paradiso Decl., ¶¶ 115-117.

Ivey teaches most limitations of claims 1-3, 5-6. Matsumoto teaches the real time camera view limitations of claims 1 and 5. Tillotson teaches the customer reservations aspects of claims 1 and 5, as well as the customer subscription aspects of claim 5.

A. Claim-by-Claim Analysis

1. Claim 1

Ivey, Matsumoto, and Tillotson disclose the method of Claim 1 as described below.

a. [1.PRE]

“A method for representing the parking status of a plurality of parking spaces to a screen of a user's portable electronic device upon a real time camera view, any of said at least one parking space being one of PAID for current payment and UNPAID upon exhaustion of payment, any of a plurality of subscribers utilizing said method to reserve at least one of the plurality of parking spaces and then to pay for at least one of the plurality of parking spaces, the method comprising:”

To the extent that the preamble is limiting, Ivey in view of Matsumoto and Tillotson teaches it. Ivey, Matsumoto, and Tillotson each describe parking management systems and methods of using them. *See infra* Section IX.A.1-5.

Ivey discloses displaying a parking space's payment status, as claimed, by describing “represent[ing] payment status of multiple parking locations,” “paid locations are represented in green and unpaid locations are represented in red,” and “superimpos[ing] ... shapes over a map ... using location data.” Ivey, Abstract, [0006], [0038] & Fig. 3; Paradiso Decl., ¶¶ 118-121.

Matsumoto discloses the parking status representation being on a screen of a user's portable electronic device, including the real time camera view as claimed, by describing “images that allow the position of the vacant parking space in the parking lot to be seen, include live-action images, vacant space-highlighted live-action images, and simplified graphic images” enabling the positional relationship between the current position of the vehicle and vacant parking spaces to be determined. Matsumoto, [0057], [0059]; Paradiso Decl., ¶¶ 121-123.

Tillotson discloses a method for reserving parking spaces. Tillotson, Abstract. Tillotson discloses a parking space information and reservation system (PSIRS). *Id.*, [0023]. The PSIRS permits users to reserve parking spaces by providing access to subscribers who have paid a periodic charge for access (*i.e.*, a reservation system), and permits users to pay a per-use charge (*i.e.*, a payment system). *Id.* Tillotson also describes a system that accepts “payment for access to the PSIRS to allow reservation of parking spaces..., or for access to the parking spaces... themselves” (*i.e.*, the claimed payment system). *Id.*, [0065]; Paradiso Decl., ¶¶ 124-126.

b. [1.A]

“assembling a database upon a computer of said plurality of parking spaces, said database including geographic locations of said plurality of parking spaces and time limits applicable to each of said plurality of parking spaces;”

Ivey teaches this limitation. Paradiso Decl., ¶¶ 127-133. Ivey discloses a parking system that includes “a parking database 604 and a street map database 606.” Ivey, [0032]. This parking database is assembled on Ivey’s server 502. *Id.* Ivey describes the parking database as including “user records 608, parking space records 610, parking type records 612, and parking event records 614” (*i.e.*, the claimed parking database). *Id.* Ivey teaches that the “parking space record 610” includes the “geographical location of the parking space” from a “street map database 606” such as “latitude and longitude coordinates or a nearest street address” (*i.e.*, the claimed geographic locations of the parking spaces). *Id.*, [0036]. The parking records also

include parameters “such as hours of enforcement, rates, etc.” (*i.e.*, the claimed time limits of the parking spaces) that enable the determination of “whether those parking spaces are paid for such that parking is authorized therein.” *Id.*, [0032]-[0037]; *see also* Fig. 6.

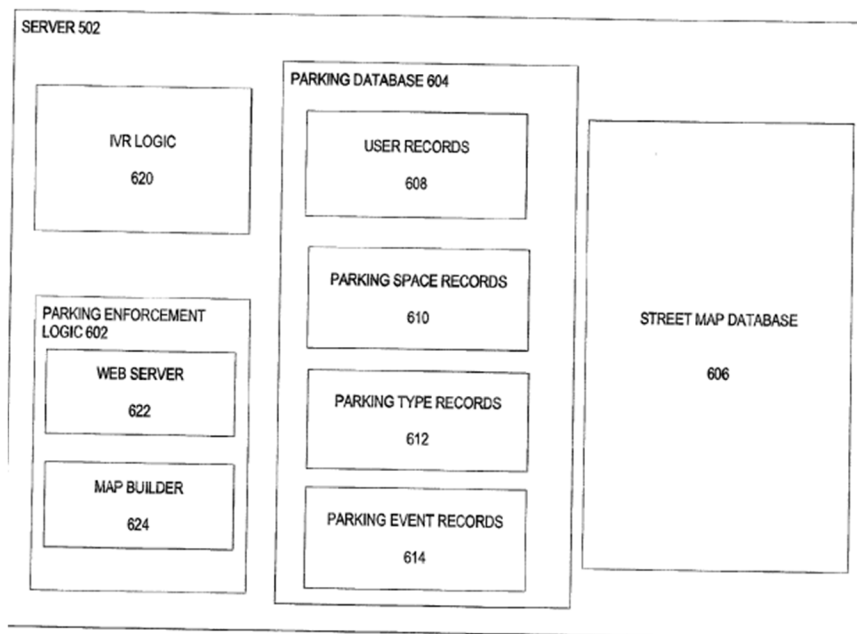


FIGURE 6

c. [1.B]

“updating a database upon a computer of subscribers, said database including a list of parking spaces reserved by each subscriber, a list of parking spaces paid for by each subscriber, and a list of the expiration times for each paid for parking space of each subscriber;”

Ivey in view of Tillotson teaches this limitation. *Paradiso Decl.*, ¶¶ 134-153.

Ivey discloses creating and updating a parking event record 614 with subscriber information, including the paid-for parking spaces and expiration times. Ivey, [0033]-[0036]. Ivey expressly discloses that the “parking event record 614

includes a space identifier 702, a start time 704, a stop time 706, and a user identifier 708” (*i.e.*, the claimed selected parking space and subscriber information). *Id.*, [0034]. Ivey further establishes that the “space identifier 702 uniquely identifies the parking space to which the ... parking event pertains within the parking spaces of parking space records 610” (*i.e.*, the claimed parking space). *Id.*, [0034]-[0036]. And it discloses that the “start time 704 and stop time 706 represent start and stop times, respectively, of payment for parking in the space identified by space identifier 702” (*i.e.*, the expiration time of the parking space). *Id.*, [0034], Fig. 7:

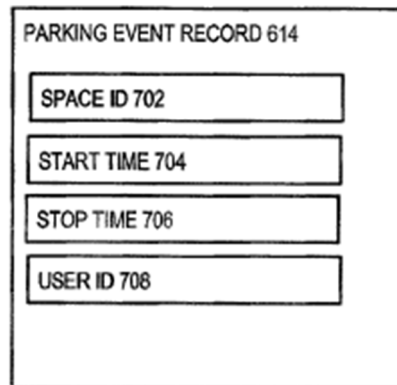


FIGURE 7

A POSITA also would have considered this limitation obvious in view of Tillotson. Paradiso Decl., ¶ 153. Tillotson discloses a method for reserving parking spaces. *Id.* Tillotson discloses a parking space information and reservation system (PSIRS). *Id.*, [0023]. The PSIRS accepts “payment for access to the PSIRS to allow reservation of parking spaces..., or for access to the parking spaces... themselves”

(*i.e.*, the claimed reservation system). *Id.*, [0065]. Tillotson’s reservation information includes the “duration of the parking reservation, and any other parameters, such as the identity or location of the reserved parking space” (*i.e.*, the claimed selected parking space and expiration time). *Id.*, [0059].

d. [1.C]

“calculating a location of said user, said calculating a location of said user adapted to utilize a location finding feature of said user’s portable electronic device;”

Ivey and Matsumoto each teach this limitation. Paradiso Decl., ¶¶ 154-161.

Ivey discloses calculating the location of a user utilizing a user’s portable electronic device by getting an “initial location” “by Global Positioning Satellite (GPS) receiver in hand-held computer 102” or “by wireless telephone location technology.” Ivey, [0043].

Similarly, Matsumoto discloses calculating the location of a user with a “position detector 11” within the “car navigation device 10” wherein the system “calculates the current position based on the signal to specify the current position outputted from the position detector 11.” Matsumoto, [0042], [0046], [0050], [0051].

e. [1.D]

“determining upon a computer a location of one of said plurality of parking spaces by comparing the location of said user to said database of said plurality of parking spaces and selecting one of said plurality of parking spaces within eight to ten feet of the position of said user;”

Ivey, Matsumoto, and Ivey in view of Matsumoto each teach this limitation, or at least render it obvious in view of the knowledge of a POSITA. *See* Paradiso Decl., ¶¶ 162-174.

Ivey discloses the identification and selection of parking spaces based on the location of the user through the preparation and creation of a parking payment map 100. Ivey, [0045]-[0046], Fig. 9. Ivey discloses that the “map center is initialized to be the estimated location of the parking control officer as determined in step 902.” *Id.*, [0045], Fig. 9. The map includes “locations of nearby parking spaces, payment states of those parking spaces, and street map data.” *Id.*, [0046], Fig. 9. These parking spaces are drawn from the parking database stored on the server. *Id.*, [0032]; Paradiso Decl., ¶¶ 163-167.

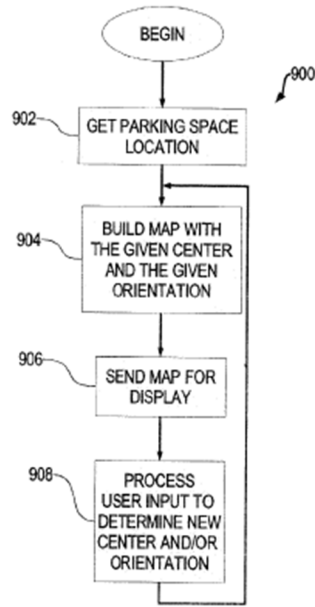
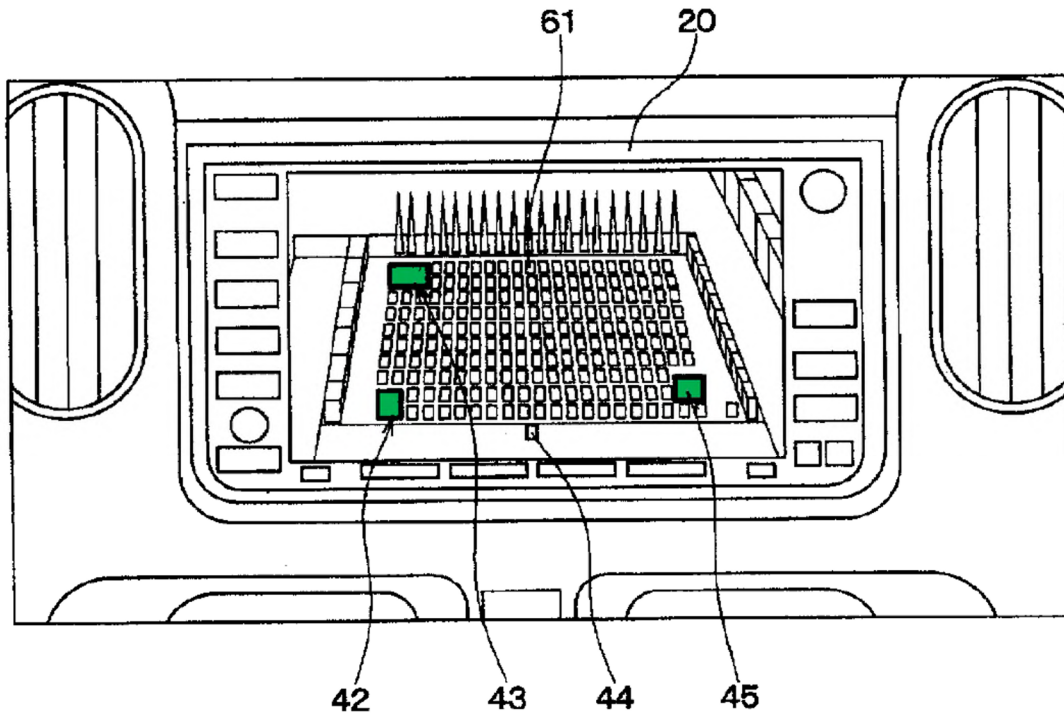


FIGURE 9

Similarly, Matsumoto discloses how the user “can immediately grasp the presence of a vacant parking space in areas 42, 43, and 45 by highlighting it.” (*i.e.*, the claimed identification and selection of parking spaces based on the location of the user). Matsumoto, [0064]; Paradiso Decl., ¶¶ 168-170.

【 図 6 】



EX1006, Fig. 6 (annotated).

A POSITA would have understood that Matsumoto’s teachings would equally be used by a parking enforcement officer to identify and select parking spaces for enforcement purposes. Paradiso Decl., ¶ 172. A POSITA also would have understood that it was obvious that a “nearby” space was within 8-10 feet of the user. *Id.*, ¶ 171. And a POSITA also would have found it obvious to use the above-described teachings to enable the selection of a parking space “within eight to ten feet of the position of said user.” *Id.*

f. [1.E]

“comparing upon a computer the location of one of said plurality of parking spaces with said database of subscribers further

comprising comparing upon a computer the location of one of said plurality of parking spaces against said list of parking spaces paid for by said subscribers for a match between said location and said list of parking spaces paid for by said subscribers;”

Ivey discloses this limitation, or at least renders it obvious in view of the knowledge of a POSITA. Paradiso Decl., ¶¶ 175-179.

Ivey discloses a method for “determining whether a specific parking space is paid for and occupation thereof is authorized.” Ivey, [0039]. This method uses parking enforcement logic 602, which runs on server 502. Ivey, Fig. 6. Specifically, Ivey discloses that a “parked flag 808 is set each time payment for parking in the space is initiated and is cleared each time payment for parking in the space is terminated.” *Id.*, [0036], [0039]. Ivey also discloses that “the payment state of respective parking spaces” may be determined “by reference to parking event records 614” (*i.e.*, the claimed identification and determination of the payment status of parking spaces based on the location of the user and the parking spaces paid for by the subscribers, as reflected by the parking event records). *Id.*, [0040]. “For example, if parking enforcement logic 602 finds a particular parking space corresponds to a parking event record which has a null stop time 706, the parking space is determined to be in a paid state.” *Id.* “If no such parking event record exists in parking event records 614, parking enforcement logic 602 determines that the parking space is in an unpaid state.” *Id.*

g. [1.F]

“upon detecting a match between said location and said list of parking spaces paid for by said subscribers, comparing the matched parking spaces to said list of expiration times and upon detecting the matched parking spaces exceeding an expiration time displaying upon said user's screen an UNPAID payment indicia upon an image of the matched parking space, wherein the user may execute enforcement measures upon any vehicle in said matched parking space showing said UNPAID indicia;”

Ivey discloses this limitation. Paradiso Decl., ¶¶ 180-188.

As discussed for limitation [1.E] above, Ivey teaches comparing parking spaces to expiration times to detect parking spaces exceeding an expiration time, once a match is found between the location and the subscribers' parking spaces. Ivey discloses that the parking payment status map 100 includes “data representing the current paid or unpaid status of each parking space,” such as “paid locations are represented in green and unpaid locations are represented in red” displayed on a “hand-held computer 102.” (*i.e.*, the claimed displaying of indicia of payment status upon an image of the parking space upon a user's screen). Ivey, [0006], [0025], [0043], Fig. 3 (annotated below).

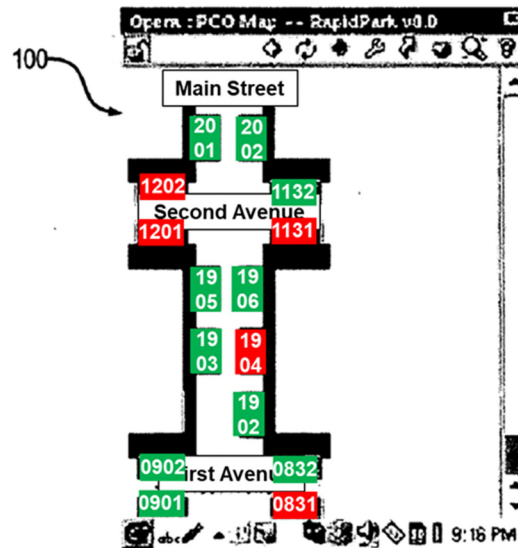


FIGURE 3

Ivey also discloses that other display characteristics can be varied to represent the different states of the various parking locations. Ivey, [0006]. Additionally, Ivey discloses that this information is sent to a parking control officer's device for enforcement, specifically, a "hand-held computer 102" for "display" (*i.e.*, the claimed user's screen). *Id.*, [0020], [0059] (officer writes a citation); *see also*, Fig. 3.

h. [1.G]

“wherein said method transforms upon a computer location data of said plurality of parking spaces and payment status data of said plurality of parking spaces into indicia of UNPAID parking spaces;”

To the extent this language is limiting, Ivey discloses this limitation. Paradiso Decl., ¶¶ 189-193.

As discussed above for limitations [1.PRE]–[1.F], Ivey discloses that the parking payment status map 100 includes “data representing the current paid or unpaid status of each parking space,” (*i.e.*, the claimed transformation of location data into indicia of the payment status) such as “paid locations are represented in green and unpaid locations are represented in red.” Ivey, [0006], [0025], [0043]. Ivey discloses that other display characteristics can be varied to represent the different states of the various parking locations. *Id.*, [0006].

i. [1.H]

“said comparing the matched parking space to said list of expiration times and upon detecting the matched parking space exceeding an expiration time and said method places said indicia of UNPAID on an image of a matched parking space upon the real time camera view on the screen of a user's device for enforcement.”

Ivey in view of Matsumoto discloses this limitation. Paradiso Decl., ¶¶ 194-205.

Ivey discloses the overlay of a parking space’s payment status on an image of the matching parking space on the screen of a user’s device by describing “data representing the current paid or unpaid status of each parking space,” such as “paid locations are represented in green and unpaid locations are represented in red” displayed on a “hand-held computer 102.” Ivey, [0006], [0025], [0043], Fig. 3 (annotated below). Paradiso Decl., ¶¶ 195-196.

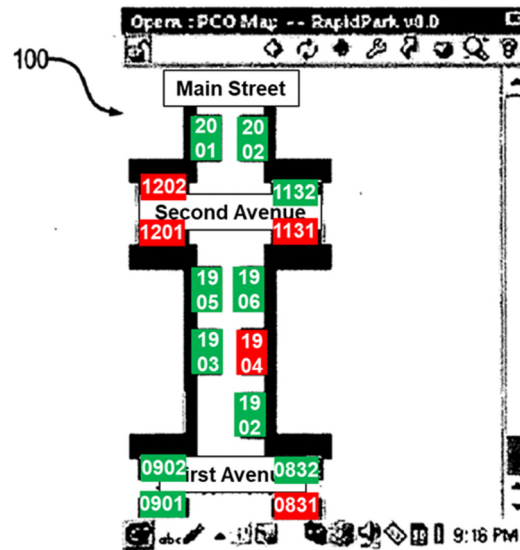
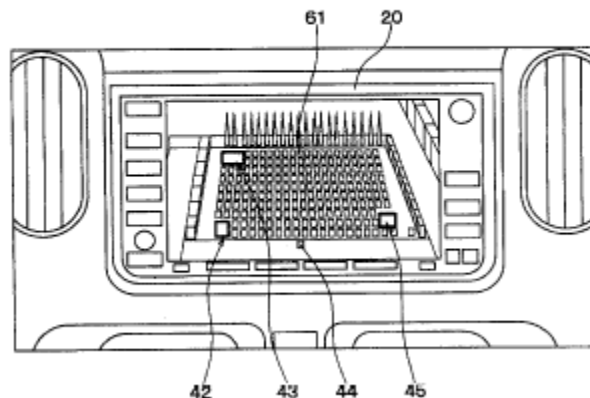


FIGURE 3

A POSITA would have considered the remainder of this limitation obvious in view of Matsumoto. Paradiso Decl., ¶¶ 197-205. Specifically, Matsumoto discloses “generating a vacant space-highlighted live-action image” to be displayed by the car navigation device 20 (*i.e.*, the “real time camera view” on the screen of the user’s device). Matsumoto, [0060], [0061]; *see also* EX1006, Fig. 6.

【 図 6 】



Matsumoto further discloses that “the map display program overlaps the vehicle current position mark based on the current position information inputted from position detector 11, the map data read from internal memory controller 16, ... and displays them on the display surface of display device 20.” Matsumoto, [0053]. Matsumoto also discloses changing the real-time view based on the current position of the vehicle. *Id.*, [0060]-[0061]. Matsumoto further discloses superimposing graphics and text display to provide the user information on the live-action image (i.e., payment indicia on the real time camera view). *Id.*, [0065]. A POSITA would have found it obvious to superimpose the parking space’s payment status information from Ivey on a live-action image as taught by Matsumoto (i.e., the claimed displaying the parking space’s payment status on a real time camera view). Paradiso Decl., ¶¶ 202-205.

2. Claim 2

Claim 2 depends on claim 1 and further requires:

“opening an account for each of said subscribers wherein said account permits each of said subscribers to reserve at least one of said plurality of parking spaces and permits each of said subscribers to pay for at least one of said plurality of parking spaces utilizing means of electronic payment.”

As explained above, Ivey in view of Matsumoto, Tillotson, and the knowledge of a POSITA disclose all limitations of Claim 1. *See* Paradiso Decl., ¶¶ 207-218.

The remainder of this limitation is disclosed by Ivey in view of Tillotson, or at least is rendered obvious in view of the knowledge of a POSITA.

Ivey discloses user records for individual motorists, which include “payment methods of each user (e.g., prepaid accounts with account balance information)” (*i.e.*, the claimed opening user accounts and payment for parking spaces). Ivey, [0032]. Ivey also teaches the receipt and service of requests from motorists to initiate or terminate payment for a particular parking space. *Id.*, [0031].

A POSITA would have considered the remainder of this limitation obvious in view of Tillotson. Paradiso Decl., ¶¶ 212-218. Tillotson discloses a parking space information and reservation system (PSIRS), which includes an operations center, which in turn includes a user account database. Tillotson, [0023]. Tillotson’s PSIRS discloses reserving parking spaces by describing “reservation data” that “is stored in the parking data base.” *Id.*, [0029]. And Tillotson discloses a system that accepts “payment for access to the PSIRS to allow reservation of parking spaces..., or for access to the parking spaces... themselves.” *Id.*, [0065]. Tillotson also discloses several methods of electronic payment for the parking spaces including “a flat monthly subscription rate, a fee-per-service with monthly billing, or a payment at time of use via online credit card data or services like PAYPAL.” *Id.* Tillotson’s disclosure of credit card payments teaches the claimed “means of electronic payment” limitation, because the 421 Patent defines a “means of electronic

payment” to include credit cards. 421 Patent, 16:20-24 (means of electronic payment defined as “ACH transfer, EFT debit, credit card, wire transfer, cell phone account and the like”).

Additionally, the 421 Patent admits that the opening and use of parking subscriber accounts has long been understood and practiced for decades. 421 Patent, 3:19-26 (“The publication to Chatterjee, No. 2004/0068433 illustrates a parking system with maps of parking spaces that allows subscribers to pay for parking by wireless or web communications.”); Paradiso Decl., ¶ 217.

3. Claim 3

Claim 3 depends on claim 1 and further requires:

“said indicia of UNPAID overlaying upon said user’s screen one of the word UNPAID, a colored logo, a circle with a bar, and a letter X.”

As explained above, Ivey in view of Matsumoto, Tillotson, and the knowledge of a POSITA discloses all limitations of Claim 1. Paradiso Decl., ¶¶ 220-231. The remainder of this limitation is disclosed by each of Ivey, Matsumoto, and Ivey in view of Matsumoto, or at least is rendered obvious in view of the knowledge of a POSITA.

As discussed above, Ivey discloses displaying indicia of parking space payment status. Ivey discloses displaying the payment status of parking spaces using colored logos, specifically, “paid locations are represented in green and unpaid

locations are represented in red.” Ivey, [0006], Fig. 3 (annotated below); Fig. 11; Paradiso Decl., ¶¶ 222-224.

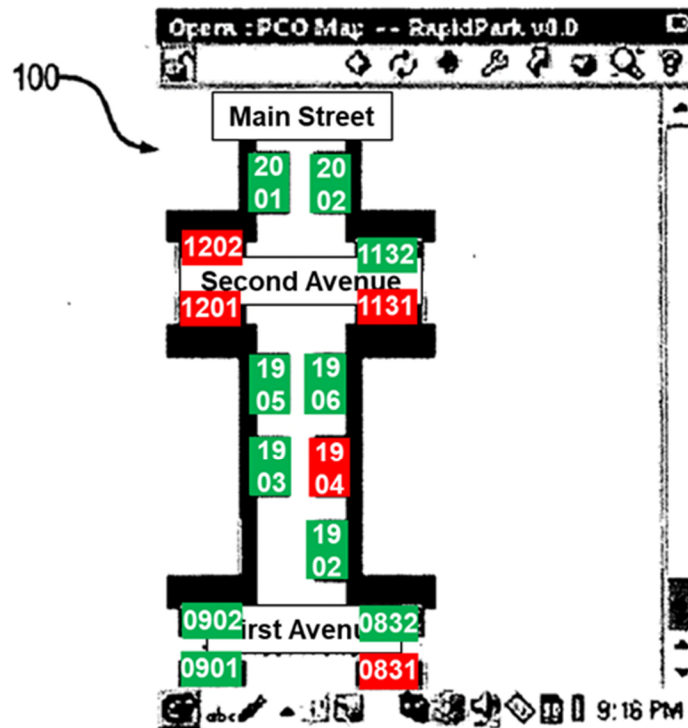


FIGURE 3

Ivey also discloses the use of “other display characteristics” that “can be varied to represent the different states of the various parking locations.” Ivey, [0006]. Paradiso Decl., ¶¶ 225-226.

Similarly, Matsumoto discloses superimposing “a bold line surrounding the vacant parking space” on the live-action image displayed. Matsumoto, [0062]. Matsumoto teaches superimposing graphics and text display over the live-action image to identify “restroom 51, restaurant 52, vending machine 53, covered road 54

as facilities in the vicinity of parking lot 4, exit 55, large vehicle designated slot 56, small vehicle designated slot 57 as information on the vicinity (i.e., around and within parking lot 4) of parking lot 4.” *Id.*, [0065], Fig. 8.

A POSITA would have understood that Ivey and Matsumoto, alone or in combination, disclose this limitation and it would have been obvious to a POSITA to include “the word UNPAID, a colored logo, a circle with a bar, and a letter X” or other indicia to indicate the payment status of a parking space. Paradiso Decl., ¶¶ 225-231.

4. Claim 5

Claim 5 is an independent claim.

a. [5.PRE]

“A method for representing the parking status of a plurality of parking spaces to a screen of a user's portable electronic device upon a real time camera view, any of said at least one parking space being one of PAID for current payment and UNPAID upon exhaustion of payment, any of a plurality of subscribers utilizing said method to reserve at least one of the plurality of parking spaces and then to pay for at least one of the plurality of parking spaces, the method comprising:”

If limiting, this preamble is taught by Ivey in view of Matsumoto and Tillotson for the same reasons as [1.PRE]. *See supra* Section IX.A.[1.PRE], Paradiso Decl., ¶ 233.

b. [5.A]

“assembling a database of said plurality of parking spaces, said database including geographic locations of said plurality of

parking spaces and time limits applicable to each of said plurality of parking spaces and storing said parking space database upon a computer server;”

Ivey in view of Tillotson teaches this limitation, or at least renders it obvious in view of the knowledge of a POSITA.

The only differences between claim limitations [1.A] and [5.A] is the deletion of the “upon a computer” clause and the additional recitation of “storing said parking space database upon a computer server.” The deletion of “upon a computer” does not alter the analysis. Thus, the “assembling” limitation is taught by Ivey for the same reasons as [1.A]. *See supra* Section IX.A.[1.A], Paradiso Decl., ¶¶ 234-236.

Both Ivey and Tillotson disclose the “storing” requirement. Ivey, [0032], [0037]; Tillotson, [0023], [0065]. Ivey explains that the server 502 stores data which “includes a parking database 604.” Ivey, [0032], [0037]. Tillotson describes a parking space information and reservation system (PSIRS), which comprises an operations center 202 (*i.e.*, a computer server as claimed) that includes a parking database 206 (*i.e.*, a parking space database as claimed). Tillotson, [0023]. Paradiso Decl., ¶¶ 237-240.

c. [5.B]

“updating a database of subscribers, said database including a list of parking spaces reserved by each subscriber, a list of parking spaces paid for by each subscriber, a list of the expiration times for each paid for parking space of each subscriber, and storing said subscriber database upon a computer server, and further

including enrolling each of said subscribers into a membership plan for parking payment;”

Ivey in view of Tillotson and Matsumoto teaches this limitation, or at least renders it obvious in view of the knowledge of a POSITA. The only material difference between claim limitation [1.B] and [5.B] is the additional recitation of “storing said subscriber database upon a computer server, and further including enrolling each of said subscribers into a membership plan for parking payment.” Ivey discloses this. Ivey, [0032] (server includes a parking database that includes user records, which are the claimed “subscriber database.”); Paradiso Decl., ¶ 243.

Tillotson also discloses this. Tillotson, [0023], [0065]; Paradiso Decl., ¶¶244-250.

Tillotson discloses a parking space information and reservation system (PSIRS), which comprises an operations center 202 (*i.e.*, a computer server as claimed), which includes a user account database 208 (*i.e.*, storing a subscriber database as claimed). Tillotson, [0023]. The PSIRS includes users 219 that can include subscribers who have paid a periodic charge for access to the PSIRS 200 (*i.e.*, enrolling subscribers in membership plans as claimed). *Id.* Such users can be added by system administrators (*i.e.*, enrolled). *Id.*, [0026], [0065]. At least the periodic charge and the free access options are membership plans as claimed. Paradiso Decl., ¶ 248.

Tillotson discloses that “individual users 219 may pay a flat monthly subscription rate, a fee-per-service with monthly billing, or a payment at time of use via online credit card data or services like PAYPAL” (*i.e.*, enrolling subscribers in membership plans as claimed). Tillotson, [0065]. At least the flat monthly subscription rate is a membership plan as claimed. Paradiso Decl., ¶ 250.

d. [5.C]

“calculating a location of said user, said calculating a location of said user adapted to utilize a location finding feature of said user's portable electronic device;”

This limitation is taught by Ivey for the same reasons as limitation [1.C]. *See supra* Section IX.A.[1.C], Paradiso Decl., ¶ 251.

e. [5.D]

“determining upon a computer server a location of one of said plurality of parking spaces by comparing the location of said user to said database of said plurality of parking spaces and selecting one of said plurality of parking spaces within eight to ten feet of the position of said user;”

This is taught by Ivey in view of Matsumoto for the same reasons as limitation [1.D]. *See supra* Section IX.A.[1.D]. The only difference between claim limitations [1.D] and [5.D] is the addition of “server.” Ivey’s server performs the determining step. Ivey, [0030]-[0031], [0037]. A POSITA would have understood that the addition of this language would not alter the analysis. Paradiso Decl., ¶ 252-254.

f. [5.E]

“comparing upon a computer server the location of one of said plurality of parking spaces with said database of subscribers further comprising comparing upon a computer the location of one of said plurality of parking spaces against said list of parking spaces paid for by said subscribers for a match between said location and said list of parking spaces paid for by said subscribers”

This is taught by Ivey for the same reasons as limitation [1.E]. *See supra* Section IX.A.[1.E]. The only difference between claim limitations [1.E] and [5.E] is the addition of “server.” Ivey’s server performs the comparing step. Ivey, [0030]-[0031], [0037]. A POSITA would have understood that the addition of this language would not alter the analysis. Paradiso Decl., ¶255-257.

g. [5.F]

“wherein upon detecting a match between said location and said list of parking spaces paid for by said subscriber, comparing the matched parking space to said list of expiration times and further upon detecting the matched parking spaces exceeding an expiration time displaying upon said user’s screen an UNPAID indicia upon an image of the matched parking space, wherein the user may execute enforcement measures upon any vehicle in said matched parking space showing said UNPAID indicia;”

This limitation is taught by Ivey for the same reasons as limitation [1.F]. *See supra* Section IX.A.[1.F]; *see also* Paradiso Decl., ¶258-260. The only differences between claim limitations [1.F] and [5.F] are minor (adding “further,” replacing “subscribers” and “spaces” with “subscriber” and “space,” and deleting “payment”).

A POSITA would have understood these differences would not alter the analysis.

Id.

h. [5.G]

“wherein said method transforms upon a computer location data of said plurality of parking spaces and payment status data of said plurality of parking spaces into indicia of UNPAID parking spaces;”

This is taught by Ivey for the same reasons as limitation [1.G]. *See supra* Section IX.A.[1.G], Paradiso Decl., ¶ 261.

i. [5.H]

“said comparing the matched parking space to said list of expiration times and upon detecting the matched parking space exceeding an expiration time and said method places said indicia of UNPAID on an image of a matched parking space upon the real time camera view on the screen of a user's device for enforcement.”

This is taught by Ivey in view of Matsumoto for the same reasons as limitation [1.H]. *See supra* Section IX.A.[1.H], Paradiso Decl., ¶ 262.

5. Claim 6

Claim 6 depends on claim 5 and further requires:

“wherein said indicia of UNPAID includes one of the word UNPAID, a colored logo, a circle with a bar, and a letter X.”

As explained above, the combination of Ivey, Matsumoto, Tillotson and the knowledge of a POSITA discloses all limitations of Claim 5. For the same reasons as discussed above for Claim 3, the remainder of this limitation is disclosed by each

of Ivey, Matsumoto, and Ivey in view of Matsumoto, or at least is rendered obvious in view of the knowledge of a POSITA. Paradiso Decl., ¶¶ 264-265.

B. Motivation to Combine Ivey, Matsumoto, and Tillotson

A POSITA would have been motivated to combine Ivey, Matsumoto, and Tillotson for at least the following reasons. Paradiso Decl., ¶¶ 266-291.

First, Ivey, Matsumoto, and Tillotson are from the same field (parking space management) and address the same general concept (facilitating parking by providing information regarding the availability of parking spaces). They also teach many of the same specific concepts, as discussed *supra* Sections IX.A.1-5. A POSITA would therefore have appreciated that Ivey's, Matsumoto's, and Tillotson's teachings were well-known and were complementary to one another, making them good targets for combination. Paradiso Decl., ¶¶ 264-278.

Second, with respect to the displaying of parking space payment status information upon a real-time camera view, a POSITA would have recognized that Matsumoto's teaching to add that information in a real-time view would be advantageous to Ivey because the manner of displaying that information was known to facilitate a parking enforcement officer's verification of payment status of multiple parking spaces simultaneously. This was an issue that would have been very familiar to a POSITA during the relevant time period and was an easily-improved shortcoming of Ivey's approach. A POSITA would have readily

appreciated that adapting Ivey in view of Matsumoto's teaching to include payment status information in a real-time camera view would more efficiently streamline parking enforcement. *Id.*, ¶ 279-281.

Third, with respect to reservation and subscription systems, a POSITA would have recognized that adapting Ivey in view of Tillotson's teachings would have been advantageous to both Ivey and Matsumoto and would make the parking management system more efficient and easier to use—a result that would have been highly desirable to a POSITA during the relevant time period, particularly in settings with high usage or limited resources. *Paradiso Decl.*, ¶ 282.

A POSITA would have had a high expectation of success in adapting Ivey in view of Matsumoto's teachings to include a real-time camera view and Tillotson's teachings of reservation and subscription systems. *Paradiso Decl.*, ¶ 283-291. As discussed above, Ivey, Matsumoto, and Tillotson are from the same field and teach many similar concepts, so a POSITA would have understood that their disclosures were likely complementary. Moreover, Ivey already displayed payment status indicia on a portable electronic device and, thus this same information would be suitable to be displayed upon a real-time camera view as taught by Matsumoto. Similarly, Ivey already accepted payment to reserve parking spaces, so only minor modifications to it would be involved in view of Tillotson's PSIRS teachings. Furthermore, including these features in a parking management system was a

conventional and well-known technique at the time of Ivey, Matsumoto, and Tillotson. Thus, a POSITA would have expected to be successful in adding these features. *Id.*, ¶ 287-291.

X. GROUND 2: IVEY IN VIEW OF MATSUMOTO, TILLOTSON, SLEMMER, AND THE KNOWLEDGE OF A POSITA RENDERS OBVIOUS CLAIMS 4 AND 7

The combination of Ivey, Matsumoto, Tillotson, and Slemmer, when considered in view of the knowledge of a POSITA, renders claims 4 and 7 obvious. *Paradiso Decl.*, ¶ 292-304.

As discussed above, Ivey in view of Matsumoto and Tillotson teach all limitations of claims 1 and 5. Slemmer teaches the additional limitation recited in claims 4 and 7 that the indicia include an audible recitation.

A. Claim-by-Claim Analysis

1. Claims 4 and 7

Claim 4 depends on claim 1 and recites:

“The method for representing the parking status of claim 1 further comprising: said indicia of UNPAID including an audible recitation.”

Claim 7 depends on claim 5 and recites:

“The method for representing the parking status of claim 5 wherein: said indicia of UNPAID includes an audible signal transmitted from a computer server to the user's portable electronic device.”

As explained above, Ivey in view of Matsumoto, Tillotson and the knowledge of a POSITA disclose all limitations of Claims 1 and 5, including the “indicia of UNPAID” being provided from Ivey’s server to the screen of the user’s portable device. These UNPAID indicia are various forms of digital data displayed on a screen (*e.g.*, “paid locations are represented in green and unpaid locations are represented in red.”) rather than an audible recitation or audible signal. *See* Ivey, [0006].

Such a recitation or signal is disclosed by Slemmer, or at least would have been obvious in view of the knowledge of a POSITA. Slemmer discloses the concept of converting digital data about a parking space into an audible recitation of parking space information and transmitting that data from a server to the user’s portable device. Specifically, Slemmer discloses that “available space location data can be audibly provided using an automated voice translation system that converts digital space data to a verbal message that can be transmitted over predetermined broadcast systems.” Slemmer, [0040]. The audio/verbal message can direct “the driver of a vehicle to a lot and/or open space as they arrive in the vicinity of the parking lot.” *Id.* It would have been obvious to a POSITA to use Slemmer’s disclosure of converting digital data about a parking space to a verbal message to convert the digital UNPAID indicia of Ivey into an audible recitation of that same indicia. Paradiso Decl., ¶¶ 300-304.

B. Motivation to Combine Ivey, Matsumoto, Tillotson, and Slemmer

As explained above, a POSITA would have been motivated to combine Ivey, Matsumoto, and Tillotson. Section IX.B. A POSITA also would have been motivated to add the teachings of Slemmer to the combination. Paradiso Decl., ¶¶ 305-318.

First, Slemmer is from the same field, addresses the same general concept, and teaches many of the same specific concepts, as discussed *supra* Sections IX.A.1-5. Thus, a POSITA would have appreciated that Ivey's Matsumoto's, Tillotson's, and Slemmer's teachings were well-known and complementary to one another, making them good targets for combination. Paradiso Decl., ¶¶ 308-310.

Second, as explained above, with respect to including audible signals indicating a parking space's payment status, a POSITA would have recognized that adapting the Ivey/Matsumoto/Tillotson combination to include audible signals in view of Slemmer's teachings would have been advantageous for efficiency and ease of use. Paradiso Decl., ¶ 311.

A POSITA would have had a high expectation of success in adapting the Ivey/Matsumoto/Tillotson combination to include audible signals in view of Slemmer's teachings. Paradiso Decl., ¶¶ 312-318. Moreover, Ivey already displayed payment status indicia on a portable electronic device and, thus, this same information would be suitable to be audibly communicated as taught by Slemmer.

Furthermore, including audible signals in a parking management system was a conventional and well-known technique at the time of Ivey, Matsumoto, Tillotson, and Slemmer. Thus, a POSITA would have expected to be successful in adding these features. *Id.*, ¶¶ 314-318.

XI. GROUND 3: WARD IN VIEW OF HAYNES, TILLOTSON, AND THE KNOWLEDGE OF A POSITA RENDERS OBVIOUS CLAIMS 1-3, 5-6

The combination of Ward, Haynes, and Tillotson, when considered in view of the knowledge of a POSITA, renders claims 1-3 and 5-6 obvious. Paradiso Decl., ¶¶ 319-321.

Ward teaches most of the limitations of claims 1-3, 5-6. Haynes teaches the real time camera view limitations of claims 1 and 5. Tillotson teaches the customer reservations aspects of claims 1 and 5, as well as the customer subscription aspects of claim 5.

A. Claim-by-Claim Analysis

1. Claim 1

Ward, Haynes, and Tillotson disclose the method of Claim 1 as described below.

a. [1.PRE]

“A method for representing the parking status of a plurality of parking spaces to a screen of a user's portable electronic device upon a real time camera view, any of said at least one parking space being one of PAID for current payment and UNPAID upon exhaustion of payment, any of a plurality of subscribers utilizing said method to reserve at least one of the plurality of parking

spaces and then to pay for at least one of the plurality of parking spaces, the method comprising:”

To the extent that the preamble is limiting, Ward in view of Haynes teaches the preamble, as does Ward in view of Haynes and Tillotson. Paradiso Decl., ¶¶ 322-327. Ward discloses a method that includes a “personal digital assistant, a portable computer, or a similar device” with the capability to use “the records to display a graphical depiction of parking meters 20 for which a fee has currently been paid and the parking meters 20 for which a fee has not currently been paid,” and permits payment and reservations for parking spaces. Ward, [0020], [0034], [0044], [0047], [0049], [0057]. These disclosures teach “representing the parking status to a screen of a user’s portable electronic device” as claimed. These disclosures further describe that parking space status is either “PAID” for current payment or “UNPAID” for exhausted payment (*i.e.*, “for which a fee has not currently been paid”), as claimed. Ward, [0046].

Ward discloses that this parking status information is displayed as a graphical representation of the parking spaces in the area. Ward, [0044], [0049]. Ward does not expressly disclose the use of a real time camera view for this graphical representation, but Haynes does. *See infra*, limitation [1.H].

Ward further discloses that customers (*i.e.*, subscribers) can reserve a parking space by entering an identifier for the parking space and a period of time the

customer wants to reserve. Ward, [0035]. Ward further discloses that its users can pay for their parking spaces when they pay their mobile device bill. Ward, [0039].

As discussed in Section IX.A.1.a above, Tillotson discloses a parking space information and reservation system (PSIRS) that allows users to reserve and pay for parking spaces. Tillotson, [0023], [0065].

b. [1.A]

“assembling a database upon a computer of said plurality of parking spaces, said database including geographic locations of said plurality of parking spaces and time limits applicable to each of said plurality of parking spaces;”

Ward teaches this limitation. Paradiso Decl., ¶ 328. Ward teaches that its system includes assembling a “database or a similar data storage system in which parking records obtained from the parking meter 20 and from the mobile device 30 can be stored and from which the records can be retrieved.” Ward, [0042]. Ward teaches that the system has the capability to access and use the records to “display a graphical depiction of the parking meters 20 ... The display might include a map of the streets, garages, or other locations at which the parking meters 20 are present.” *Id.*, [0044], [0045], Fig. 3b. Additionally, Ward discloses that the parking record information includes time limits. *Id.*, Fig. 2c-d and associated text (2 hour limit).

Parking	
Space #83-10-101 (Denver, area 10, space 101)	
Rate: \$1.00 per Hour Limit: 2 Hours	
Enter time to be purchased:	
____ : ____ hrs min	
Send	Back

c. [1.B]

“updating a database upon a computer of subscribers, said database including a list of parking spaces reserved by each subscriber, a list of parking spaces paid for by each subscriber, and a list of the expiration times for each paid for parking space of each subscriber;”

Ward and Ward in view of Tillotson each disclose this limitation. Paradiso Decl., ¶ 329-332.

Ward describes a database to store (*i.e.*, “updating”) parking records from the mobile devices of the customers (*i.e.*, subscribers). Ward, [0042], [0044]. Those parking records include parking space information for each subscriber (“a map of the streets, garages, or other locations at which the parking meters 20 are present”), payment information for each subscriber (“a graphical depiction of the parking

meters 20 for which a fee has currently been paid and the parking meters 20 for which a fee has not currently been paid”), and time limits for each subscriber (“[t]he indicators might show whether or not each parking meter 20 is currently credited with a parking fee. This information could then be used for parking fee enforcement purposes.”). *Id.*, [0031], [0032]-[0034], [0042], [0044], Fig. 2c-d. Ward further teaches that these records can be used to alert customers that their paid-for time is about to expire. Ward, [0038], [0060]. Thus, a POSITA would have understood that the system stores a list of parking spaces reserved by and paid for by each subscriber, with expiration times, in order to know when to send the alert, which parking space to send the alert for, and which customer to send the alert to. Paradiso Decl., ¶ 331.

Parking	
Space #83-10-101 (Denver, area 10, space 101)	
Rate: \$1.00 per Hour	
Limit: 2 Hours	
Enter time to be purchased:	
____ : ____ hrs min	
Send	Back

A POSITA also would have considered this limitation obvious over Ward in view of the teachings of Tillotson. As discussed in Section IX.A.1.c above, Tillotson

discloses displaying parking space availability, reserving parking spaces, and monthly subscriptions. Tillotson, Abstract, [0023], [0059], [0065]. And a POSITA would have found it obvious to use these teachings to enable a user to “reserve” a parking space. Paradiso Decl., ¶ 332.

d. [1.C]

“calculating a location of said user, said calculating a location of said user adapted to utilize a location finding feature of said user's portable electronic device;”

Ward teaches this limitation. Paradiso Decl., ¶ 333. Ward describes calculating the location of an enforcement officer or enforcement officer’s “portable computer” (*i.e.*, the “user” as claimed) “with a positioning system, such as a geographical positioning system (GPS)” to readily determine the location of the officer in order to identify nearby parking spaces. Ward, [0049].

e. [1.D]

“determining upon a computer a location of one of said plurality of parking spaces by comparing the location of said user to said database of said plurality of parking spaces and selecting one of said plurality of parking spaces within eight to ten feet of the position of said user;”

Ward discloses this limitation. Paradiso Decl., ¶¶ 334-337. Ward teaches using a “personal digital assistant, a portable computer, or a similar device.” Ward, [0049]. The device may be “equipped with a positioning system, such as a geographical positioning system (GPS).” *Id.* This GPS system is used to identify

the location of the user, which “allow[s] the enforcement office[r] to more readily determine the location of nearby parking spaces.” *Id.*

Ward also discloses that a customer’s GPS-based location is combined with the parking records “to create a map that could be displayed on the screen of the mobile device and could show the presence of vacant parking spaces near the customer’s current location.” Ward, [0059]. This is determining a location of the desired parking spaces by comparing the user’s location to the list of parking spaces in the database. A POSITA would have understood that this teaching is equally applicable to using the officer’s GPS information to derive the same map of nearby parking spaces. Paradiso Decl., ¶ 335. Thus, Ward discloses or at least renders obvious this limitation.

Ward further teaches that the officer can “walk alongside the street 200 with the municipality computer 70 and compare occupied parking spaces 210 with the indicators 280 on the municipality computer 70.” Ward, [0049]. A POSITA would have readily recognized that this discloses (or at a minimum renders obvious) that the indicated parking space was “within eight to ten feet” of the officer as claimed. Paradiso Decl., ¶¶ 336-337.

f. [1.E]

“comparing upon a computer the location of one of said plurality of parking spaces with said database of subscribers further comprising comparing upon a computer the location of one of said plurality of parking spaces against said list of parking spaces paid

for by said subscribers for a match between said location and said list of parking spaces paid for by said subscribers;”

Ward discloses this limitation. Paradiso Decl., ¶¶ 338-339. Each parking space in Ward is associated with a location and an indicator of payment status. Ward, [0046]. The indicator of payment status is derived from the subscriber records supplied to Ward’s system. *Id.*, [0044]. For example, the subscriber uses his mobile device to reserve and pay for a parking space, as shown in Fig. 2c-d. This record is stored in Ward’s database. *Id.*, [0042]. The location data of a parking meter is also stored in Ward’s database. *Id.*, [0042], [0044], [0046]. Ward discloses that the municipality computer 70 has “the capability to use the records to display a graphical depiction of the parking meters 20 for which a fee has currently been paid and the parking meters 20 for which a fee has not currently been paid. The display might include a map of the streets, garages, or other locations at which the parking meters 20 are present.” *Id.*, [0044]. A POSITA would have understood this to teach that the location records are compared with the subscriber records reflecting the payment status to identify a match in order to accurately display the payment status on the location-based display. Paradiso Decl., ¶ 339.

g. [1.F]

“upon detecting a match between said location and said list of parking spaces paid for by said subscribers, comparing the matched parking spaces to said list of expiration times and upon detecting the matched parking spaces exceeding an expiration time displaying upon said user's screen an UNPAID payment

indicia upon an image of the matched parking space, wherein the user may execute enforcement measures upon any vehicle in said matched parking space showing said UNPAID indicia;

Ward discloses this limitation. Paradiso Decl., ¶¶ 340-342. Ward teaches that display screen 240 includes a map 250 that includes “an indicator 280 ... associated with each of the virtual parking spaces 270 to provide a graphical depiction of whether a fee has currently been paid for the parking meter 20 associated with the actual parking space 210 depicted by the virtual parking space 270.” Ward, [0046], Fig. 3b.

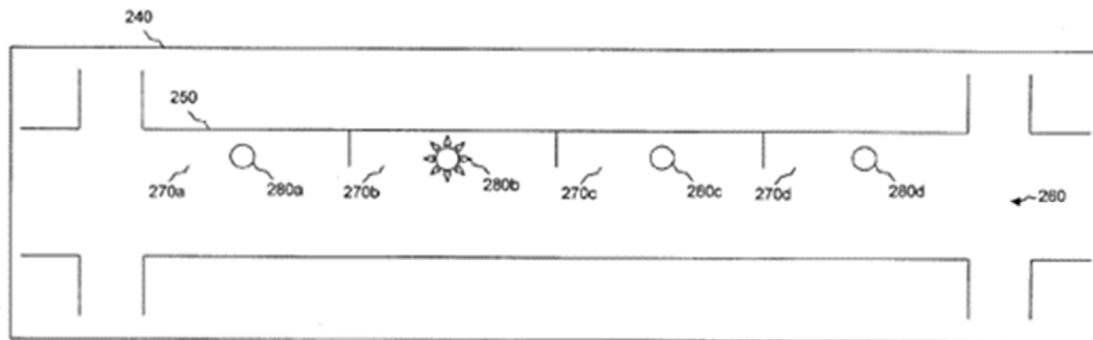


Figure 3b

Because Ward’s display provides a graphical depiction of whether a fee has “currently” been paid, Ward checks the expiration time in order to determine whether the fee is “current” or not. Paradiso Decl., ¶ 341. Ward further teaches a variety of different indicators, such as a non-illuminated light, a light of a different color, or a pair of lights one of which indicates “when a fee has not been paid,” that can be used to indicate that a fee has not currently been paid (*i.e.*, an “UNPAID”

indica as claimed). Ward, [0046]. These indicators are placed on the image of the parking space, as shown in Fig. 3b. Ward further teaches that “enforcement actions” can be initiated against any unpaid-for vehicle. Ward, [0051].

h. [1.G]

“wherein said method transforms upon a computer location data of said plurality of parking spaces and payment status data of said plurality of parking spaces into indicia of UNPAID parking spaces;”

To the extent this language is limiting, Ward discloses it. Paradiso Decl., ¶¶ 343-344.

As discussed above for limitations [1.PRE]–[1.F], Ward’s system uses parking records from the parking meter (*i.e.*, location data) and records from the subscriber’s mobile device 30 (*i.e.*, payment data). Ward, [0042]. Ward uses this data to “display a graphical depiction of the parking meters 20 for which a fee has currently been paid and the parking meters 20 for which a fee has not currently been paid.” Ward, [0044], [0049], Figs. 2c-d, 3b. This is transforming location data and payment data into indicia of UNPAID parking spaces as claimed.

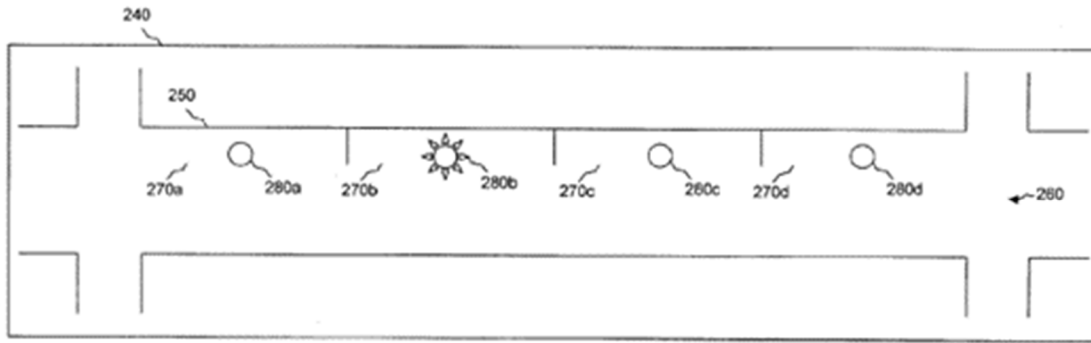


Figure 3b

i. [1.H]

“said comparing the matched parking space to said list of expiration times and upon detecting the matched parking space exceeding an expiration time and said method places said indicia of UNPAID on an image of a matched parking space upon the real time camera view on the screen of a user's device for enforcement.”

The combination of Ward and Haynes discloses this limitation. Paradiso Decl., ¶¶ 345-352.

Ward discloses the user's device, including a “personal digital assistant, a portable computer, or a similar device” with the capability to use “the records to display a graphical depiction of parking meters 20 for which a fee has currently been paid and the parking meters 20 for which a fee has not currently been paid.” Ward, [0032], [0044], [0047], [0049], [0057]. This, along with the teachings of Ward recited for limitation [1.F] above, teaches all of this limitation except for the “real time camera view.”

Such a view was well-known. Haynes discloses a method for managing a parking lot, including transmitting parking lot information to an “interaction device” (*i.e.*, a user’s device as claimed). Haynes, 2:6-10. Haynes discloses displaying on a personal interaction device a variety of different representations of a parking lot, including displaying an actual representation (*i.e.*, a camera view image) of the parking lot depicted from a specified or variable location such as out the front windshield of a vehicle. Haynes, 12:62-13:8, 13:32-43. This representation can be dynamically updated in real time. Haynes, 13:32-43. This representation can be enhanced with additional data about the parking spaces, such as identifying an “optimal” parking space. *Id.* A POSITA would have found it obvious to apply Haynes’ teachings of an actual representation of a parking lot, dynamically updated in real time and enhanced with data about the parking spaces, to Ward’s system for displaying the payment status of each parking meter nearby an enforcement officer. Paradiso Decl., ¶¶ 351-352.

2. Claim 2

Claim 2 depends on claim 1 and further requires:

“opening an account for each of said subscribers wherein said account permits each of said subscribers to reserve at least one of said plurality of parking spaces and permits each of said subscribers to pay for at least one of said plurality of parking spaces utilizing means of electronic payment.”

As explained above, Ward in view of Haynes, Tillotson, and the knowledge of a POSITA disclose all limitations of Claim 1. The remainder of this claim is

disclosed by each of Ward, Tillotson, and Ward in view of Tillotson, or at least is obvious in view of the knowledge of a POSITA. Paradiso Decl., ¶¶ 353-357.

Ward discloses user accounts for each customer (*i.e.*, “subscriber” as claimed), which are provided (*i.e.*, opened) by the customer’s telecommunications provider. Ward, [0008]-[0009]. These accounts can be used by the customers to reserve parking spaces, by providing the information in Fig. 2b-d. Ward, [0030], Fig. 2b-d. These accounts can be used by the customers to pay for parking spaces by having the charges for the parking spaces placed on their mobile phone bill. Ward, [0021].

Ward discloses that its customers can use their cell phones to access the parking management system and pay the parking fees which are placed on the customer’s bill. Ward, [0019]-[0021]. This is a cell phone account, which is a means of electronic payment as defined in the specification. 421 Patent, 16:20-24.

To the extent that Ward is deemed not to teach some portion of this claim, a POSITA would have considered any such portion obvious in view of Tillotson. As discussed in Section IX.A.2 above, Tillotson discloses a parking space information and reservation system (PSIRS), which includes an operations center, which in turn includes a user account database. Tillotson, [0023], [0029], [0065]; Paradiso Decl., ¶ 356.

Indeed, the 421 Patent admits that the opening and use of parking subscriber accounts with electronic payment has long been practiced. 421 Patent, 3:19-26 (“The publication to Chatterjee, No. 2004/0068433 illustrates a parking system with maps of parking spaces that allows subscribers to pay for parking by wireless or web communications.”); Paradiso Decl., ¶ 357.

3. Claim 3

Claim 3 depends on claim 1 and further requires:

“said indicia of UNPAID overlaying upon said user’s screen one of the word UNPAID, a colored logo, a circle with a bar, and a letter X.”

As explained above, Ward in view of Haynes, Tillotson, and the knowledge of a POSITA discloses all limitations of Claim 1. The remainder of this claim is disclosed by Ward, or at least is rendered obvious in view of the knowledge of a POSITA. Paradiso Decl., ¶¶ 358-360.

As discussed above, Ward teaches the use of “indicators 280” that are “lights that are illuminated when a fee has been paid and that are not illuminated when a fee has not been paid, lights that are a first color when a fee has been paid and a second color when a fee has not been paid.” Ward, [0046]. A POSITA would have understood that the use of colored lights to indicate non-payment status satisfies the 421 Patent’s teaching of using a “colored logo.” Paradiso Decl., ¶ 359. Additionally, it would have been obvious to a POSITA in view of Ward’s teachings

that “other types of indicators well known to those of skill in the art” could be used (Ward, [0046]), that such other types of indicators could include a letter “X” or a circle with a bar. Both of these indicators were very well known as indicators for negative status, such as something that is not permitted. *See, e.g.*, EX1020, Annex 6, Section A.1; Paradiso Decl., ¶ 360.



No Parking



No Stopping

4. Claim 5

Claim 5 is an independent claim.

a. [5.PRE]

“A method for representing the parking status of a plurality of parking spaces to a screen of a user's portable electronic device upon a real time camera view, any of said at least one parking space being one of PAID for current payment and UNPAID upon exhaustion of payment, any of a plurality of subscribers utilizing said method to reserve at least one of the plurality of parking spaces and then to pay for at least one of the plurality of parking spaces, the method comprising:”

If limiting, the preamble is taught by Ward in view of Haynes, as well as Ward in view of Haynes and Tillotson, for the same reasons as [1.PRE]. *See supra* Section XI.A.[1.PRE]; Paradiso Decl., ¶ 361.

b. [5.A]

“assembling a database of said plurality of parking spaces, said database including geographic locations of said plurality of parking spaces and time limits applicable to each of said plurality

of parking spaces and storing said parking space database upon a computer server;”

Ward in view of Tillotson teaches this limitation, or at least renders it obvious in view of the knowledge of a POSITA. The only difference between claim limitations [1.A] and [5.A] is the deletion of “upon a computer” and additional recitation of “storing said parking space database upon a computer server.” The deletion of “upon a computer” does not alter the analysis. Thus, the “assembling” limitation is taught by Ward for the same reasons as [1.A]. *See supra* Section XI.A.[1.A], Paradiso Decl., ¶ 362. Ward also discloses storing this database on a computer server. Ward, [0067], claim 24 (“a server to track parking information”).

Tillotson also discloses the “storing” requirement. It describes a parking space information and reservation system (PSIRS), which comprises an operations center 202 (*i.e.*, a computer server as claimed), which includes a parking database 206 (*i.e.*, a parking space database as claimed). Tillotson, [0023]; Paradiso Decl., ¶ 363.

c. [5.B]

“updating a database of subscribers, said database including a list of parking spaces reserved by each subscriber, a list of parking spaces paid for by each subscriber, a list of the expiration times for each paid for parking space of each subscriber, and storing said subscriber database upon a computer server, and further including enrolling each of said subscribers into a membership plan for parking payment;”

Ward in view of Tillotson discloses this limitation. The only material difference between claim limitation [1.B] and [5.B] is the additional recitation of “storing said subscriber database upon a computer server, and further including enrolling each of said subscribers into a membership plan for parking payment.” Ward discloses storing this database on a computer server. Ward, [0067], claim 24 (“a server to track parking information.”) Tillotson also teaches this additional limitation. *See* Section IX.A.[1.B]; Paradiso Decl., ¶ 364.

d. [5.C]

“calculating a location of said user, said calculating a location of said user adapted to utilize a location finding feature of said user's portable electronic device;”

This limitation is taught by Ward for the same reasons as [1.C]. *See supra* Section XI.A.[1.C]; Paradiso Decl., ¶ 365.

e. [5.D]

“determining upon a computer server a location of one of said plurality of parking spaces by comparing the location of said user to said database of said plurality of parking spaces and selecting one of said plurality of parking spaces within eight to ten feet of the position of said user;”

This is taught by Ward for the same reasons as [1.D]. *See supra* Section XI.A.[1.D]. The only difference between claim limitations [1.D] and [5.D] is the addition of “server.” A POSITA would have understood that the addition of this language would not alter the analysis. Paradiso Decl., ¶ 366.

f. [5.E]

“comparing upon a computer server the location of one of said plurality of parking spaces with said database of subscribers further comprising comparing upon a computer the location of one of said plurality of parking spaces against said list of parking spaces paid for by said subscribers for a match between said location and said list of parking spaces paid for by said subscribers”

This is taught by Ward for the same reasons as [1.E]. *See supra* Section IX.A.[1.E]. The only difference between claim limitations [1.E] and [5.E] is the addition of “server.” A POSITA would have understood that the addition of this language would not alter the analysis. Paradiso Decl., ¶ 367.

g. [5.F]

“wherein upon detecting a match between said location and said list of parking spaces paid for by said subscriber, comparing the matched parking space to said list of expiration times and further upon detecting the matched parking spaces exceeding an expiration time displaying upon said user’s screen an UNPAID indicia upon an image of the matched parking space, wherein the user may execute enforcement measures upon any vehicle in said matched parking space showing said UNPAID indicia;”

This limitation is taught by Ward for the same reasons as [1.F]. *See supra* Section IX.A.[1.F]; Paradiso Decl., ¶ 368. The only differences between claim limitations [1.F] and [5.F] are minor (adding “further,” replacing “subscribers” and “spaces” with “subscriber” and “space,” and deleting the term “payment”). A POSITA would have understood that these differences would not alter the analysis. *Id.*

h. [5.G]

“wherein said method transforms upon a computer location data of said plurality of parking spaces and payment status data of said plurality of parking spaces into indicia of UNPAID parking spaces;”

This is taught by Ward for the same reasons as [1.G]. *See supra* Section XI.A.[1.G], Paradiso Decl., ¶ 369.

i. [5.H]

“said comparing the matched parking space to said list of expiration times and upon detecting the matched parking space exceeding an expiration time and said method places said indicia of UNPAID on an image of a matched parking space upon the real time camera view on the screen of a user's device for enforcement.”

This is taught by Ward in view of Haynes for the same reasons as [1.H]. *See supra* Section XI.A.[1.H], Paradiso Decl., ¶ 370.

5. Claim 6:

Claim 6 depends on claim 5 and further requires:

“wherein said indicia of UNPAID includes one of the word UNPAID, a colored logo, a circle with a bar, and a letter X.”

As explained above, Ward in view of Haynes, Tillotson and the knowledge of a POSITA discloses all limitations of Claim 5. For the same reasons as discussed above for Claim 3, Ward discloses or at least renders obvious this limitation. Paradiso Decl., ¶ 371.

B. Motivation to Combine Ward, Haynes, and Tillotson

A POSITA would have been motivated to combine Ward, Haynes, and Tillotson for at least the following reasons. Paradiso Decl., ¶¶ 372-376.

First, Ward, Haynes, and Tillotson are from the same field and address the same general concept. They also teach many of the same specific concepts, as discussed *supra* Sections XI.A.1-5. A POSITA would therefore have appreciated that Ward's, Haynes', and Tillotson's teachings were well-known and were complementary to one another, making them good targets for combination. Paradiso Decl., ¶ 373.

Second, with respect to the displaying of parking space payment status information upon a real-time camera view, a POSITA would have recognized that Haynes' teaching to add that information in a real-time view would be advantageous to Ward because the manner of displaying that information was known to facilitate a parking enforcement officer's verification of payment status of multiple parking spaces simultaneously. This is an issue that would have been very familiar to a POSITA and is an easily-improved shortcoming of Ward's approach. A POSITA would have appreciated that adapting Ward to include payment status information on a real-time camera view in light of Haynes' teachings would more efficiently streamline parking enforcement. Paradiso Decl., ¶ 374.

Third, with respect to including reservation and subscription systems, a POSITA would have recognized that adapting Ward in view of Tillotson's teachings would have been advantageous to both Ward and Haynes and would make the parking management system more efficient—a result that would have been highly desirable to a POSITA, particularly in settings with high usage or limited resources. Paradiso Decl., ¶ 375.

A POSITA would have had a high expectation of success in adapting Ward in view of Haynes' real-time camera view and Tillotson's reservation and subscription systems. Paradiso Decl., ¶ 376. As discussed above, Ward, Haynes, and Tillotson are from the same field and teach many similar concepts, so a POSITA would have understood that their disclosures were complementary. Moreover, Ward already displayed payment status indicia on a portable electronic device and, thus, this same information would be suitable to be displayed upon a real-time camera view as taught by Haynes. Similarly, Ward already accepted payment to reserve parking spaces such that only minor changes would be involved in adapting Ward in view of Tillotson's parking space information and reservation system (PSIRS). Furthermore, adding these features to a parking management system was a conventional and well-known technique at the time of Ward, Haynes, and Tillotson. *Id.*, ¶ 376.

XII. GROUND 4: WARD IN VIEW OF HAYNES, TILLOTSON, SLEMMER, AND THE KNOWLEDGE OF A POSITA RENDERS OBVIOUS CLAIMS 4 AND 7

The combination of Ward, Haynes, Tillotson, and Slemmer, when considered in view of the knowledge of a POSITA, renders claims 4 and 7 obvious. *Paradiso Decl.*, ¶¶ 377-378.

As discussed above, Ward in view of Haynes and Tillotson teach all limitations of claims 1 and 5. Slemmer teaches the additional limitation recited in claims 4 and 7 that the indicia include an audible recitation.

A. Claims 4 and 7

Claim 4 depends on claim 1 and recites:

“The method for representing the parking status of claim 1 further comprising: said indicia of UNPAID including an audible recitation.”

Claim 7 depends on claim 5 and recites:

“The method for representing the parking status of claim 5 wherein: said indicia of UNPAID includes an audible signal transmitted from a computer server to the user's portable electronic device.”

As explained above, Ward in view of Haynes, Tillotson, and the knowledge of a POSITA discloses all limitations of Claims 1 and 5, including the “indicia of UNPAID” being provided from Ward’s server to the screen of the user’s portable device. These UNPAID indicia are digital data displayed on a screen (*e.g.*, lights

that are either on or off or are of different colors) rather than an audible recitation or audible signal.

As discussed in Section X.A above, Slemmer discloses such a recitation or signal, or renders it obvious. It would have been obvious to a POSITA to use Slemmer's disclosure of converting digital data about a parking space to a verbal message to convert the digital UNPAID indicia of Ward into an audible recitation of that same indicia. Paradiso Decl., ¶¶ 381-382.

B. Motivation to Combine Ward, Haynes, Tillotson, and Slemmer

As explained above, a POSITA would have been motivated to combine Ward, Haynes, and Tillotson. Section XI.B. A POSITA also would have been motivated to add Slemmer's teachings to the combination. Paradiso Decl., ¶¶ 383-386.

First, Slemmer is from the same field, addresses the same general concept, and teaches many of the same specific concepts, as discussed *supra* Sections XI.A.1-5. Thus, a POSITA would have appreciated that Ward's, Haynes', Tillotson's, and Slemmer's teachings were well-known and complementary to one another, making them good targets for combination. Paradiso Decl., ¶ 384.

Second, a POSITA would have recognized that adapting the Ward/Haynes/Tillotson combination to provide audible signals indicating payment status in view of Slemmer's teachings would have been advantageous to the

Ward/Haynes/Tillotson combination for efficiency and ease of use. Paradiso Decl., ¶ 385.

A POSITA would have had a high expectation of success in adapting Ward to include audible signals in view of Slemmer's teachings. Paradiso Decl., ¶ 386. As discussed above, Slemmer is from the same field and teaches many similar concepts, so a POSITA would have understood that their disclosures were likely complementary. Moreover, Ward already displayed payment status indicia on a portable electronic device that was able to play audio (Ward, [0075]). This same information would be suitable to be audibly communicated as taught by Slemmer. Furthermore, including audible signals in a parking management system was a conventional and well-known technique at the time of Ward, Hayes, Tillotson, and Slemmer. *Id.*

XIII. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

There is no evidence suggesting the existence of any secondary considerations of non-obviousness. *Id.*, ¶ 387.

XIV. CONCLUSION

For the reasons set forth and the evidence recited herein, Petitioner respectfully requests that review be instituted and that all claims of the 421 Patent be cancelled.

Petition for *Inter Partes* Review of U.S. Patent No. 10,438,421

Dated: January 18, 2023

ORRICK, HERRINGTON & SUTCLIFFE LLP

By: /Donald Daybell/

Donald Daybell

Lead Counsel for Petitioners

Registration No. 50,877

2050 Main Street Suite #1100

Irvine, CA 92614-8255

T: (949) 567-6700

F: (949) 567-6710

Email: D2DPTABDocket@orrick.com

Attorneys for Petitioner Oracle Corporation

CERTIFICATION PURSUANT TO 37 C.F.R §42.11

Pursuant to 37 C.F.R. §42.11, the undersigned hereby certifies that this Petition and accompanying evidence including Exhibits 1001 - 1024 are not being presented for an improper purpose and that all legal contentions, allegations, and denials are warranted and have evidentiary support.

Dated: January 18, 2023

ORRICK, HERRINGTON & SUTCLIFFE LLP

By: /Donald Daybell/
Donald Daybell
Lead Counsel for Petitioners
Registration No. 50,877
2050 Main Street Suite #1100
Irvine, CA 92614-8255
T: (949) 567-6700
F: (949) 567-6710
Email: D2DPTABDocket@orrick.com

CERTIFICATE OF COMPLIANCE

The undersigned certifies that the foregoing PETITION FOR *INTER PARTES* REVIEW complies with the type volume limitation in 37 C.F.R. § 42.24(a)(1)(i). According to the utilized word-processing system's word count, the Petition—excluding the caption, table of contents, table of exhibits, mandatory notices, certification pursuant to 37 C.F.R. § 42.11, certificate of word count, and certificate of service—contains 13,999 words.

Dated: January 18, 2023

ORRICK, HERRINGTON & SUTCLIFFE LLP

By: /Donald Daybell/
Donald Daybell
Lead Counsel for Petitioners
Registration No. 50,877
2050 Main Street Suite #1100
Irvine, CA 92614-8255
T: (949) 567-6700
F: (949) 567-6710
Email: D2DPTABDocket@orrick.com

CERTIFICATE OF SERVICE

The undersigned hereby confirms that the foregoing Petition for *Inter Partes* Review and associated exhibits were caused to be served on January 18, 2023 via overnight courier upon the following counsel of record for Patent Owner:

Charles C. McCloskey
13321 N. Outer 40 Rd. Ste. 100
Town & Country, MO 63017

Copies of this Petition and accompanying exhibits were also served on January 18, 2023, via electronic mail on Patent Owner's counsel of record in a related district court litigation:

Charles C. McCloskey (ccmlaw@socket.net)
CHARLES C. MCCLOSKEY, LLC
Christopher S. Swiecicki (Chris@SwiecickiLaw.com)
SWIECICKI & MUSKETT, LLC

/Karen Johnson/

Karen Johnson

APPENDIX A – CLAIM LISTING

Claim 1:

[1.PRE] “A method for representing the parking status of a plurality of parking spaces to a screen of a user's portable electronic device upon a real time camera view, any of said at least one parking space being one of PAID for current payment and UNPAID upon exhaustion of payment, any of a plurality of subscribers utilizing said method to reserve at least one of the plurality of parking spaces and then to pay for at least one of the plurality of parking spaces, the method comprising:”

[1.A] “assembling a database upon a computer of said plurality of parking spaces, said database including geographic locations of said plurality of parking spaces and time limits applicable to each of said plurality of parking spaces;”

[1.B] “updating a database upon a computer of subscribers, said database including a list of parking spaces reserved by each subscriber, a list of parking spaces paid for by each subscriber, and a list of the expiration times for each paid for parking space of each subscriber;”

[1.C] “calculating a location of said user, said calculating a location of said user adapted to utilize a location finding feature of said user's portable electronic device;”

[1.D] “determining upon a computer a location of one of said plurality of parking spaces by comparing the location of said user to said database of said plurality of parking spaces and selecting one of said plurality of parking spaces within eight to ten feet of the position of said user;”

[1.E] “comparing upon a computer the location of one of said plurality of parking spaces with said database of subscribers further comprising comparing upon a computer the location of one of said plurality of parking spaces against said list of parking spaces paid for by said subscribers for a match between said location and said list of parking spaces paid for by said subscribers;”

[1.F] “upon detecting a match between said location and said list of parking spaces paid for by said subscribers, comparing the matched parking spaces to said list of expiration times and upon detecting the matched parking spaces exceeding an expiration time displaying upon said user's screen an UNPAID payment indicia upon an image of the matched parking space, wherein the user may execute enforcement measures upon any vehicle in said matched parking space showing said UNPAID indicia;”

[1.G] “wherein said method transforms upon a computer location data of said plurality of parking spaces and payment status data of said plurality of parking spaces into indicia of UNPAID parking spaces;”

[1.H] “said comparing the matched parking space to said list of expiration times and upon detecting the matched parking space exceeding an expiration time and said method places said indicia of UNPAID on an image of a matched parking space upon the real time camera view on the screen of a user's device for enforcement.”

Claim 2:

“The method for representing the parking status of claim 1 further comprising: opening an account for each of said subscribers wherein said account permits each of said subscribers to reserve at least one of said plurality of parking spaces and permits each of said subscribers to pay for at least one of said plurality of parking spaces utilizing means of electronic payment.”

Claim 3:

“The method for representing the parking status of claim 1 further comprising: said indicia of UNPAID overlaying upon said user's screen one of the word UNPAID, a colored logo, a circle with a bar, and a letter X.”

Claim 4:

“The method for representing the parking status of claim 1 further comprising: said indicia of UNPAID including an audible recitation.”

Claim 5:

[5.PRE] “A method for representing the parking status of a plurality of parking spaces to a screen of a user's portable electronic device upon a real time camera view, any of said at least one parking space being one of PAID for current payment and UNPAID upon exhaustion of payment, any of a plurality of subscribers utilizing said method to reserve at least one of the plurality of parking spaces and then to pay for at least one of the plurality of parking spaces, the method comprising:”

[5.A] “assembling a database of said plurality of parking spaces, said database including geographic locations of said plurality of parking spaces and time limits applicable to each of said plurality of parking spaces and storing said parking space database upon a computer server;”

[5.B] “updating a database of subscribers, said database including a list of parking spaces reserved by each subscriber, a list of parking spaces paid for by each subscriber, a list of the expiration times for each paid for parking space of each subscriber, and storing said subscriber database upon a computer server, and further including enrolling each of said subscribers into a membership plan for parking payment;”

[5.C] “calculating a location of said user, said calculating a location of said user adapted to utilize a location finding feature of said user's portable electronic device;”

[5.D] “determining upon a computer server a location of one of said plurality of parking spaces by comparing the location of said user to said database of said plurality of parking spaces and selecting one of said plurality of parking spaces within eight to ten feet of the position of said user;”

[5.E] “comparing upon a computer server the location of one of said plurality of parking spaces with said database of subscribers further comprising comparing upon a computer the location of one of said plurality of parking spaces against said list of parking spaces paid for by said subscribers for a match between said location and said list of parking spaces paid for by said subscribers”

[5.F] “wherein upon detecting a match between said location and said list of parking spaces paid for by said subscriber, comparing the matched parking space to said list of expiration times and further upon detecting the matched parking spaces exceeding an expiration time displaying upon said user’s screen an UNPAID indicia upon an image of the matched parking space, wherein the user may execute enforcement measures upon any vehicle in said matched parking space showing said UNPAID indicia;”

[5.G] “wherein said method transforms upon a computer location data of said plurality of parking spaces and payment status data of said plurality of parking spaces into indicia of UNPAID parking spaces;”

[5.H] “said comparing the matched parking space to said list of expiration times and upon detecting the matched parking space exceeding an expiration time and said method places said indicia of UNPAID on an image of a matched parking space upon the real time camera view on the screen of a user's device for enforcement.”

Claim 6:

“The method for representing the parking status of claim 5 further comprising: wherein said indicia of UNPAID includes one of the word UNPAID, a colored logo, a circle with a bar, and a letter X.”

Claim 7:

“The method for representing the parking status of claim 5 wherein: said indicia of UNPAID includes an audible signal transmitted from a computer server to the user's portable electronic device.”