

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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UNIFIED PATENTS INC.,  
Petitioner,

v.

RIDEAPP, INC.,  
Patent Owner.

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Case IPR2019-00414  
Patent 6,697,730 B2

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Before MITCHELL G. WEATHERLY, JASON W. MELVIN, and  
AARON W. MOORE, *Administrative Patent Judges*.

MELVIN, *Administrative Patent Judge*.

DECISION  
*Denying Inter Partes Review*  
*35 U.S.C. § 314*

## I. INTRODUCTION

Petitioner, Unified Patents, Inc., filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 2, 3, and 6 (“the challenged claims”) of U.S. Patent No. 6,697,730 B2 (Ex. 1001, “the ’730 patent”). Patent Owner, RideApp, Inc., timely filed a Preliminary Response. Paper 11 (“Prelim. Resp.”). Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we have authority to determine whether to institute review.

An *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons set forth below, we conclude that Petitioner has not shown a reasonable likelihood it will prevail in establishing the unpatentability of at least one challenged claim. We, therefore, do not institute *inter partes* review of the challenged claims.

### A. THE ’730 PATENT

The ’730 patent relates to “an urban transit system that minimizes the social costs of urban transportation” and is “based on digital cellular communication, GPS locating technology and digital computers to provide real-time command and control of passengers and vehicles.” Ex. 1001, 1:15–21. To that end, the patent describes a “central assigning system” for communicating with vehicles and passenger’s mobile devices. *Id.* at 3:43–48. Such communications may include: “(1) communications with passengers to schedule their trips and give them precise information on trip times and sites; (2) vehicle (and in some instances passenger) location communications using GPS technology; (3) communications to vehicles to

allocate routes, schedules and passengers; and, (4) communications between passengers and vehicles to monitor system usage.” *Id.* at 7:65–8:5. The patent describes that the central assigning system is implemented as a computer system (*id.* at 10:30–39) that performs a number of functions, including: monitoring the location of vehicles (*id.* at 11:63–65, 14:14–16); receiving a trip request from a passenger (*id.* at 13:54–56); accessing data relating to the passenger (*id.* at 14:29–40); assigning the passenger to one or more alternative anticipated routings (*id.* at 6:55–58, 14:47–53, 14:54–15:24); communicating alternatives to the passenger (*id.* at 6:55–58, 14:53–54); and updating the schedule of vehicles based on demand and progress (*id.* at 7:8–10). The Specification states that, “[o]nce the routes and methods are determined, the central processing system allocates them based on a passenger’s parameters.” *Id.* at 15:24–26.

Once a particular trip is scheduled, “the passenger is alerted when the vehicle is at a range of about 1 mile to about 30 feet,” or based on time remaining until the vehicle arrives. *Id.* at 17:6–11. Such determinations are “based on the central assigning systems calculations and the passenger’s profile.” *Id.*

## B. CHALLENGED CLAIMS

Each challenged claim is independent. Claims 2 and 6 are illustrative and are reproduced below:

2. An automated system for providing unified billing for passenger transport comprising:
  - (a) a central data system for tracking passenger transportation vehicle usage and distributing periodic invoices for the usage; and

- (b) a plurality of communication devices for providing wireless communication between passengers, vehicles, and the central data system in connection with the passenger transportation vehicle usage; and
- (c) a wireless means of on-demand allocation of a passenger to a specific vehicle through the central data system.

*Id.* at 23:63–24:22.

6. An automated system for providing unified billing for passenger transport comprising:

- (a) a central data system for tracking passenger transportation vehicle usage and distributing periodic invoices for the usage; and
- (b) a plurality of communication devices for providing wireless communication between passengers, vehicles, and the central data system in connection with the passenger transportation vehicle usage; and
- (c) a wireless means of detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle.

*Id.* at 24:54–65. Claim 3 recites the same limitations as those of claim 2, with one additional limitation that requires a “means of informing the passenger of the assignment and updated expected arrival time.” *Id.* at 24:36–37.

C. PROPOSED GROUNDS OF UNPATENTABILITY

Petitioner asserts the following grounds of unpatentability, each based on 35 U.S.C. § 103:

References	Claims
Ayed <sup>1</sup> and Behnke <sup>2</sup>	2, 3, and 6
Penzias, <sup>3</sup> Behnke, and Ayed	2, 3, and 6

Pet. 4. Petitioner also relies on the Declaration of Scott Andrews (Ex. 1003).  
*See generally* Pet.

II. DISCUSSION

A. CLAIM CONSTRUCTION

1. “a wireless means of on-demand allocation of a passenger to a specific vehicle through the central data system” (claims 2 and 3)

The parties agree that “wireless means of on-demand allocation of a passenger to a specific vehicle through the central data system” in claims 2 and 3 recites a means-plus-function element subject to construction under § 112 ¶ 6. Pet. 9; Prelim. Resp. 19. Petitioner asserts the claimed function matches the claim language. Pet. 9. Petitioner points to the Specification’s statement that “[o]nce the routes and methods are determined, the central processing system allocates them based on a passenger’s parameters.” *Id.* (quoting Ex. 1001, 15:24–26). Petitioner also identifies descriptions of assigning a passenger to a vehicle as relevant to the claimed function. *Id.*

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<sup>1</sup> U.S. Patent No. 6,756,913 B1 (filed Nov. 1, 1999; issued June 29, 2004) (Ex. 1006).

<sup>2</sup> U.S. Patent No. 4,360,875 (issued Nov. 23, 1982) (Ex. 1005).

<sup>3</sup> U.S. Patent No. 5,604,676 (issued Feb. 18, 1997) (Ex. 1004).

at 9–10 (citing Ex. 1001, 6:55–58, 14:41–15:34). Patent Owner does not disagree that the claimed function includes assigning a passenger to a vehicle, but argues that “allocation” includes aspects beyond assignment. Prelim. Resp. 16. Patent Owner asserts that the allocation process is described in Figures 5 and 6, stating that it “involves the interaction between the various wireless devices, integration of the location information for both vehicle and passenger, the inclusion of passenger parameters stored in a database or provided dynamically by the passenger (e.g., route preferences, billing information), and the identification of both passenger and vehicle to enhance security.” *Id.* at 17 (citing Ex. 1001, 14:4–13, Figs. 5, 6; Ex. 2004 ¶ 48). Patent Owner also describes on-demand allocation as a process in which “a passenger is assigned to a vehicle, and vice versa, based on current passenger information (including passenger parameters, whether saved on the central assigning system or dynamically entered by the passenger), current transit parameters, and current vehicle data.” *Id.* at 18. Thus, Patent Owner does not dispute that on-demand allocation is a process of assigning a passenger to a vehicle, but instead argues that the process must consider a range of information when performing that assignment.

The claim language itself defines the function for the limitation at issue. *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999) (“The statute does not permit limitation of a means-plus-function claim by adopting a function different from that explicitly recited in the claim.”). It would be erroneous to add functions described in embodiments but not expressly recited in the claim. *JVW Enterprises, Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1331 (Fed. Cir. 2005). We conclude that, to the extent Patent Owner disputes Petitioner’s framing of

the claimed function, Patent Owner improperly seeks to add aspects that appear in described embodiments. The claims recite “on-demand allocation of a passenger to a specific vehicle through the central data system,” and we therefore must determine what corresponding structure the Specification discloses for performing the function of allocating a passenger to a specific vehicle.

Petitioner submits that the central assigning system includes “(1) at least one computer having a processing unit (processor), memory storage, display device, and a user input device . . . and (2) communication devices (e.g., modems) that connect the at least one computer to a wireless network (e.g., cellular service provider 430 in Fig. 4) for wirelessly communicating with passengers and drivers of vehicles.” Pet. 10 (citing Ex. 1001, 10:30–39, 5:54–64, 10:59–63); *accord id.* at 11 (citing Ex. 1003 ¶¶ 52–59). Petitioner does not identify any further structure corresponding to the means for on-demand allocation.

Patent Owner asserts that Petitioner fails to identify proper corresponding structure by not including the algorithm used to perform the claimed function. Prelim. Resp. 14. When a specification discloses a general-purpose computer to implement a means-plus-function limitation, the corresponding structure must further include the algorithm disclosed for performing the claimed function. *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1348–49 (Fed. Cir. 1999). The specification may express an algorithm “in any understandable terms including as a mathematical formula, in prose, . . . as a flow chart, or in any other manner that provides sufficient structure.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (citation omitted). If the specification fails to disclose

an algorithm for performing the function, a claim with such a limitation is indefinite. *Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1337–38 (Fed. Cir. 2008). Patent Owner states that corresponding structure “is amply disclosed in the specification” Prelim. Resp. 19 (citing Ex. 1001, 4:4–6, 5:4–15, 9:26–35, Figs. 2, 5, 6; Ex. 2004 ¶ 50), *accord id.* at 17 (“Figures 5 and 6 explain the logic flow and steps of the allocation process and specific interactions between the passenger, the vehicle, and the central assigning system.” (citing Ex. 1001, 13:53–54, 14:14–29, Figs. 5, 6)).

The Specification must itself disclose enough to encompass software performing the claimed function, not just disclose enough that a person of skill could have written such software. *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1212 (Fed. Cir. 2003). Additionally, the Specification must clearly link described software to the particular function claimed, not just to some described function. *Id.* at 1216, 1218 (“There must be something in the disclosure to indicate to the public that the patentee intends for a particular structure to correspond to a claimed function. It is not enough simply to list a certain structure in the specification; that structure must also be clearly linked to a claimed function in order to be a corresponding structure for that function.”).

Most of Patent Owner’s citations relate to basic elements of the claimed system and do not show any possible algorithm. *See* Ex. 1001, 4:4–6 (“wireless communication devices that transmit[] information to, and receive information from, the central assigning system.”); 5:4–15 (discussing a variety of communication devices “enabling the wireless interconnectivity of passenger and vehicle”); 9:26–35 (describing Figure 2



as showing central assigning system in remote communication with a database); Fig. 2 (showing central assigning system 205 connected with database 240, passenger information 210, 215, and 220, and vehicle information 225, 230, and 235). The parties do not dispute that the central assigning system interfaces with wireless devices and a database in order to perform the claimed function, and we agree those aspects are properly included in the corresponding structure. The portions of the Specification that Patent Owner identifies as corresponding structure, however, do not disclose an algorithm sufficient to understand the claims.

Patent Owner cites Figures 5 and 6, which are flow charts that potentially illustrate an algorithm for “on-demand allocation of a passenger to a specific vehicle.” *See* Prelim. Resp. 17, 19. Figure 5 begins with the system receiving a trip request (block 502) and proceeds to the next step, “process trip request” (block 504). Ex. 1001, Fig. 5. The remainder of Figure 5’s process includes that a user must determine whether to book a trip according to one of the alternatives identified by the system. *Id.* at 15:35–39, Fig. 5 (block 506). Only if a user confirms the acceptance of a trip does the system add the reservation for the user and vehicle. *Id.* at 15:39–41, 15:52–66, Fig. 5 (blocks 508 and 510).

Figure 6 shows detail of Figure 5’s “process trip request” (block 504). *Id.* at 14:14. Figure 6 shows a process in which passenger and vehicle information is monitored and user data is accessed until a request is deemed “complete.” *Id.* at Fig. 6, 14:14–47 (discussing blocks 504.1, 504.2, 504.3, and 504.4). Then the system attempts to match a user’s request with existing services and identifies possible alternatives. *Id.* at 14:47 (discussing blocks 504.5 and 504.6). The system notifies the user of any matches or alternatives

that have been identified. *Id.* at 14:53–54. The Specification discloses that alternatives may be ranked by predicted travel time or cost, and that the system may use multiple parameters to determine those metrics, such as vehicle availability, traffic conditions, travel conditions, etc. *Id.*

at 14:54–15:14. Significantly, the Specification states that “[o]nce the routes and methods are determined, the central processing system allocates them based on a passenger’s parameters.” *Id.* at 15:24–26.

Thus, we must consider what portions of Figures 5 and 6, if any, relate to the claimed “on-demand allocation of a passenger to a specific vehicle.” To the extent that Patent Owner argues the claimed allocation encompasses all of the steps in Figures 5 and 6 (*see* Prelim. Resp. 17), we do not agree. The Specification states that Figure 5 “is a logic flow diagram of a preferred embodiment of the present transit system” and does not refer to allocation. Ex. 1001, 13:53–54. It states that, in Figure 5’s block 504, “the central assigning system processes the trip request received from a passenger” (*id.* at 14:4–5), and that, in Figure 6, “process 504 is explained in detail” (*id.* at 14:14). The description does not reference allocation as a specific function described in the figures. And we can locate no connection between any description of an algorithm in the figures and the process of allocation. Patent Owner’s assertion that “Figures 5 and 6 explain the logic flow and steps of the allocation process and specific interactions between the passenger, the vehicle, and the central assigning system” (Prelim. Resp. 17) lacks support in the Specification. To the extent Patent Owner relies on its declarant, Mr. Jellicoe (*see id.* at 18), his testimony does not offer any analysis or support beyond the Preliminary Response (*see* Ex. 2004 ¶ 48).

Another aspect of Figure 5 also militates against concluding it represents the claimed “on-demand allocation.” Figure 5 includes blocks that are not part of “on-demand allocation,” such as updating pickup time and notifying users of an updated pickup time (blocks 512 and 514). *Id.* Those blocks seemingly refer to functionality commensurate with “informing the passenger of the . . . updated expected arrival time” in claim 3 (*id.* at 24:36–37), rather than “on-demand allocation.”

Thus, we conclude the Specification does not indicate that “on-demand allocation” encompasses the overall procedure shown in Figures 5 and 6.

Even considering “allocation” as just one portion of the overall procedure, however, the Specification fails to provide information regarding *how* allocation is performed. The portion of Figure 6 that could represent an allocation process appears in blocks 504.5, 504.6, and 504.7. *Id.* at Fig. 6. The description of those steps states:

In step 504.5 the system searches the user[']s pickup sites identified using the user’s cellular phone number. The system will match a user’s request with existing services located at or near the user’s pickup sites in step 504.6. The system will also determine alternatives to the user’s request if precise matches cannot be made. In step 504.7 the system notifies the user of matches and or alternatives.

*Id.* at 14:47–54. But those steps cannot comprise the claimed “on-demand allocation” because the claimed function requires allocation “of a passenger to a specific vehicle.” Because the Specification describes a process in which a passenger is not paired with a specific vehicle until selecting that vehicle as one of the alternatives presented to the passenger, the passenger actually performs part of the function of pairing with a specific vehicle. *Id.*

at 15:35–41. Such an arrangement—including the passenger as part of the claimed structure—would not be a proper means-plus-function limitation. *See Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1300 (Fed. Cir. 2005) (“[A] human being cannot constitute a ‘means.’”); *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 296 F.3d 1106, 1116–19 (Fed. Cir. 2002).

Moreover, blocks 504.5 and 504.6, described above, do not provide sufficient information regarding how to accomplish the claimed function. As described above, the Specification gives examples of information that the central assigning system may use to determine alternatives for a requested trip. *See Ex. 1001*, 14:54–15:24. But naming possible inputs to a process is insufficient to describe the algorithm that performs the process.

The only reference to allocation in the description of Figures 5 or 6 has no connection to the figures or to additional disclosure of an algorithm for performing allocation. *See id.* at 15:24–26 (“Once the routes and methods are determined, the central processing system allocates them based on a passenger’s parameters.”). That cursory statement provides no information regarding how allocation is performed or what the end result of it would be. The Specification’s only other use of “allocate” does not provide any more information on how the process is performed. *See id.* at 8:3–4 (discussing “data interpreted and evaluated by the central assigning system,” including “communications to vehicles to allocate routes, schedules and passengers”). Thus, the Specification does not clearly link anything in Figures 5 or 6 to the allocation function.

Accordingly, we conclude that, regardless of the precise scope of “on-demand allocation” recited in claims 2 and 3, the ’730 patent does not describe adequate structure for performing that function.

2. “a wireless means of detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle” (claim 6)

Claim 6 recites “a wireless means of detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle.” The parties agree this limitation should be construed under § 112 ¶ 6. Pet. 14; *see* Prelim. Resp. 24–25. Petitioner asserts that the limitation requires two distinct functions: “detecting the proximity of the passenger” and “alerting the passenger of the proximity of the vehicle.” Pet. 14. Patent Owner does not directly address the claimed function. Prelim. Resp. 24–25. We agree that Petitioner correctly states the claimed functions.

Petitioner asserts that the corresponding structure includes “at least a central processing system having (i) at least one computer configured to detect the proximity of the passenger, (ii) a communication device (e.g., modem) capable of communicating with wireless communication devices of passengers, and a digital cellular communication device, and equivalents thereof.” Pet. 15–16. Patent Owner argues that Petitioner’s definition is incomplete and that the corresponding structure “would include location technology such as GPS.” Prelim. Resp. 24–25. Neither party addresses any algorithm that the Specification describes for detecting proximity or alerting passengers.

We can find no such algorithm. Patent Owner asserts that “proximity” means “nearness in distance” because the Specification distinguishes between distance and time, while using distance when referring to

proximity. Prelim. Resp. 25–26 (citing Ex. 1001, Table 1 (“Correspondingly the passenger is automatically notified of proximity of vehicle.”), 17:4–11 (describing time-based notifications as an alternative to distance-based notifications)). Regardless of whether proximity includes temporal determinations, it refers to the separation between a passenger and the vehicle in which the passenger expects to ride. *See* Ex. 1001, Table 1; *see also id.* at 17:46–51 (“The central assigning system notifies the rental car of the expected rental, and provides the verification code of the passenger/renter so that when the passenger/renter is in proximity to the vehicle, the doors can be unlocked by pressing a key on the passenger’s cell phone.”), 17:6–8 (“In preferred embodiments, the passenger is alerted when the vehicle is at a range of about 1 mile to about 30 feet.”). To detect any such proximity, the system must compare the location of both the vehicle and the passenger. But the parties do not identify and we cannot locate where Specification provides any information regarding such a comparison. Accordingly, we conclude that the Specification does not disclose adequate corresponding structure clearly linked to claim 6’s function of detecting the proximity of the passenger.

#### B. UNPATENTABILITY

As discussed above, we conclude that each challenged claim includes a limitation recited in means-plus-function format for which the Specification fails to describe corresponding structure linked to the claimed function. Thus, we are unable to apply the claim language to the prior art. *See BlackBerry Corp. v. MobileMedia Ideas, LLC*, Case IPR2013-00036, slip op. at 8, 20 (PTAB Mar. 7, 2014) (Paper 65) (citing *In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962) and reasoning that “the prior art

grounds of unpatentability must fall, pro forma, because [the grounds] are based on speculative assumption as to the meaning of the claims.’’).

Accordingly, we conclude that Petitioner has not shown a reasonable likelihood of prevailing with respect to any of the challenged claims.

### C. REAL PARTY IN INTEREST

Patent Owner asserts further that Petitioner fails to name all real parties in interest. Prelim. Resp. 2; Patent Owner’s Prelim. Resp. Surreply (Paper 14).<sup>4</sup> Petitioner challenges that assertion. Pet. Reply to Prelim. Resp. (Paper 13).

Because we determine that we cannot apply the claim language to the prior art, agreeing with Patent Owner’s RPI contention would not change the result, which renders the issue moot. Therefore, we decline to reach the issue.

### III. CONCLUSION

For the reasons discussed above, we conclude Petitioner has not shown a reasonable likelihood that it will prevail with respect to unpatentability.

### IV. ORDER

Accordingly, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), no *inter partes* review of the ’730 patent is instituted.

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<sup>4</sup> We permitted the parties to address the RPI issue in additional briefing. Paper 12.

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