

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DOREE DUNCAN

Appeal No. 2006-3323
Application No. 10/287,151

ON BRIEF

Before HAIRSTON, KRASS, and HOMERE, **Administrative Patent Judges**.
HOMERE, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1, 3 through 7, all of which are pending in this application. Claims 2, 8 through 20 have been canceled by Appellant.

We reverse.

Invention

Appellant's invention relates generally to a method for providing trip status information to a user (140) in transit from a source location (110) to a destination location (120). First, the user carries a mobile communication device (145) equipped with a global positioning system that transmits to a remote server a signal indicating the current location of the user in transit. The remote server then estimates the time-of-arrival bounds of the user to the targeted destination (120) based on the received current location signal and other historical travel time statistics pertaining to the same itinerary. The remote server subsequently sends the estimated time-of-arrival bounds to the user via the mobile communication device (145).

Claim 1 is representative of the claimed invention and is reproduced as follows:

1. A method comprising:

(i) receiving a location of a mobile communications device that is in transit to a destination;

(ii) estimating the time-of-arrival bounds for said mobile communications device at said destination for a confidence interval based on:

(a) said location, and

(b) at least one historical travel time statistic; and

Appeal No. 2006-3323
Application No. 10/287,151

(iii) sending the time-of-arrival bounds to said mobile communications device.

References

The Examiner relies on the following references:

Shyu	5,428,544	June 27, 1995
Schmier et al.(Schmier)	6,006,159	Dec. 21, 1999
Ran	6,317,686	Nov. 13, 2001

Rejections at Issue

- A. Claims 1, 3 and 6 stand rejected under 35 U.S.C. § 102 as being anticipated by Schmier.
- B. Claim 5 stands rejected under 35 U.S.C. § 103 as being unpatentable over Schmier.
- C. Claim 4 stands rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Schmier and Ran.
- D. Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Schmier and Shyu.

Appeal No. 2006-3323
Application No. 10/287,151

Rather than reiterate the arguments of Appellant and the Examiner, the opinion refers to respective details in the Briefs¹ and the Examiner's Answer.² Only those arguments actually made by Appellant have been considered in this decision. Arguments that Appellant could have made but chose not to make in the Briefs have not been taken into consideration. See 37 CFR 41.37(c)(1)(vii) (eff. Sept. 13, 2004).

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the Examiner's rejections, the arguments in support of the rejections and the evidence of anticipation and obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration Appellant's arguments set forth in the Briefs along with the Examiner's rationale in support of the rejections and arguments in the rebuttal set forth in the Examiner's Answer.

¹ Appellant filed an Appeal Brief on January 4, 2005. Appellant filed a Reply Brief on July 8, 2006.

² In response to the Examiner's Answer mailed May 12, 2006, a Reply Brief was filed July 8, 2006, which was acknowledge and entered by the Examiner in the communication dated August 23, 2006.

Appeal No. 2006-3323
Application No. 10/287,151

After full consideration of the record before us, we do not agree with the Examiner that claims 1, 3 and 6 are properly rejected under 35 U.S.C. § 102 as being anticipated by Schmier. We also do not agree with the Examiner that claim 5 is properly rejected under 35 U.S.C. § 103 as being unpatentable over Schmier. Additionally, we do not agree with the Examiner that claims 4 and 7 are properly rejected under 35 U.S.C. § 103 as being unpatentable over Schmier in combination with Ran and shyu respectively. Accordingly, we reverse the Examiner's rejections of claims 1, 3 through 7 for the reasons set forth **infra**.

I. Under 35 U.S.C. § 102(b), is the Rejection of claims 1, 3 and 6 as Being Anticipated By Schmier Proper?

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. **See In re King**, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and **Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.**, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

With respect to representative claim 1, Appellant argues in the Appeal and Reply Briefs that the Schmier reference does not disclose estimating and sending the time-of-arrival bounds for a

Appeal No. 2006-3323
Application No. 10/287,151

confidence interval for a user in transit from a source location to a destination location. Particularly, at pages 3 and 4 of the Appeal Brief, Appellant states that the following:

Nowhere does Schmier teach or suggest, alone or in combination with the other references, what claim 1 recites- namely estimating and sending the time-of-arrival-bounds for a confidence interval.

The Office is confusing this limitation with Schmier which teaches "predicted time intervals between adjacent transit stops." Schmier's predicted time intervals, however, refer neither to a confidence interval or time-of-arrival bounds, but rather to the predicted amount of time between adjacent transit stops. (Schmier does not define the term "predicted;" however, those skilled in the art would likely interpret this term to mean "expected.")

To determine whether claim 1 is anticipated, we must first determine the scope of the claim. We note that representative claim 1 reads in part as follows:

[E]stimating the time-of-arrival bounds for said mobile communications device at said destination for a confidence interval based on: (a) said location, and (b) at least one historical travel time statistic; and sending the time-of-arrival bounds to said mobile communication device.

At pages 4 and 5, paragraphs 27, Appellant's specification states the following:

[0027] At task 245, time-of-arrival metrics are estimated based on the historical travel time data, average speed, remaining distance to the destination, weather information, and traffic information. (Computation of the average speed and the remaining distance to the destination is disclosed below in the

description of task 270; note that average speed does not apply at the start of the trip.) In some embodiments, adjustments to the historical travel time data might be made based on weather information, traffic information, and average speed. The remaining distance to the destination can be used for interpolation, given that the travel time database cannot have infinite spatial resolution. Time-of-arrival metrics that might be estimated include: expected time-of-arrival, earliest time-of-arrival, time-of-arrival bounds for a given confidence interval, etc. In some embodiments, the computations of task 245 might be performed at a remote server, while in other embodiments, the computations of task 245 might be performed by a processor embedded in mobile communications device 145, as is well understood in the art.

Thus, representative claim 1 does require estimating and sending the time-of-arrival bounds for a confidence interval for a user in transit from a source location to a destination location.

Now, the question before us is what Schmier would have taught to one of ordinary skill in the art? To answer this question, we find the following facts:

1. At column 6, line 66 through column 7, line 6, Schmier states the following:

[T]he present invention is embodied in a system and method using global positioning system devices mounted in individual vehicles which determine the precise coordinate/location of the individual vehicles. That information is transmitted to one or more central computers, preferably via a wireless communication link, and more generally via any of the available communications wireless links or "hard-wired" links, including fiber optics links, radio, satellite, microwave, cellular, telephone, etc., and

combinations thereof. Then, **using the coordinate information and experience (information previously determined and stored in the computer memory regarding vehicle routes, speeds during various times of the day, days of the week, holidays, inclement weather, etc.), the central computer(s) generates transit data tables containing current data regarding the routes, locations, velocity/speed, arrival time at future stops and other status and operational information for all vehicles in the system, then controls the broadcast availability of that information in a manner which provides public access to the information via any or all of a number of access devices and systems.** The available access means include visual displays, audiovisual displays, telephony, computers, the Internet system, etc. [Emphasis added].

2. At column 9, lines 45 through 56, Schmier states the following:

Preferably, the transit data table contains schedules or tables which list (1) each run of a transit vehicle for a given time period, such as a day, and associated schedule information including (2) **the predicted time intervals between adjacent transit stops,** (3) **the associated predicted time of arrival at each stop for each run,** and (4) **the predicted change in historical passenger load at each stop.** The predicted time intervals, arrival times and passenger loads are calculated based upon the history of these items, taking into account the month, week, day, time-of-day, etc., as well as other historical factors or patterns including weather, holidays, vacation seasons, school year holidays, etc. [Emphasis added].

3. At column 10, lines 28 through 36, Schmier states the following:

From the distance and location information, the central computer calculates predicted arrival times at every vehicle stop on the route designated for a vehicle (and preferably uses the capabilities described subsequently to calculate a predicted passenger load). **The computer predicts arrival times and passenger loads with increasing accuracy based**

Appeal No. 2006-3323
Application No. 10/287,151

upon the expanding data base covering vehicles traveling on the particular route under similar operating conditions at similar times of the day, week and month, and schedules.
[Emphasis added].

With the above discussion in mind, we find that with regard to representative claim 1, the Schmier reference teaches an information system for notifying passengers waiting for public transportation of arrival times of public transit vehicles. Particularly, Schmier teaches a public transit vehicle equipped with a mobile communication system including a GPS that transmits a signal to a central computer for notifying the latter of the current location of the public transit vehicle. Upon receiving the vehicle location signal, the central computer estimates the time of arrival of the vehicle to a particular station based upon the received location signal and historical statistic pertaining to the same itinerary. The central computer subsequently sends the estimated time of arrival for a particular vehicle at a particular stop directly to the passenger waiting at the station or to a public display at the station for all passengers to see. Schmier also teaches that the central computer may also estimate time intervals between adjacent transit stops.

It is our view that one of ordinary skill in the art at the time of the present invention would have readily found that Schmier's does not amount to the invention as recited in representative claim 1. Particularly, the ordinarily skilled artisan would have duly recognized that Schmier's teaching is limited to predicting a discrete time-of-arrival of public vehicles at a particular destination without actually specifying a time interval during which the vehicle is likely to arrive. Further, the ordinarily skilled artisan would have been readily apprised of the fact that Schmier's notification of a time-of-arrival of a public vehicle at a particular station is devoid of any indication of a degree of confidence that the vehicle will actually arrive at the destination within a particular time interval. Additionally, the ordinarily skilled artisan would have duly recognized that even though Schmier teaches that the vehicle location signal originates from the vehicle in transit, it does not teach that the estimated time-of-arrival of the vehicle is sent back to the communication device with the user in transit where the location signal originates. Rather, Schmier teaches that the predicted time-of-arrival is sent to a prospective passenger, not yet in transit,

Appeal No. 2006-3323
Application No. 10/287,151

waiting at the station, and wherein said passenger has no connection with the initial location signal. Similarly, the time interval between adjacent stops disclosed by Schmier is not intended to be transmitted to the mobile communication system where the location signal originated.

Consequently, we find error in the Examiner's stated position, which concludes that Schmier teaches estimating and sending the time-of-arrival bounds for a confidence interval for a user in transit from a source location to a destination location. It is therefore our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to the ordinarily skilled artisan the invention as set forth in claims 1, 3 and 6. Accordingly, we will not sustain the Examiner's rejection of claims 1, 3 and 6.

II. Under 35 U.S.C. § 103, is the Rejection of Claim 5 as being unpatentable over Schmier Proper?

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). **See also In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in

Appeal No. 2006-3323
Application No. 10/287,151

the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. **In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788. Thus, the examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the examiner's conclusion. However, a suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. **In re Kahn**, 441 F.3d 977, 987-88, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) citing **In re Kotzab**, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000). See also **In re Thrift**, 298 F.3d 1357, 1363, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002).

Appeal No. 2006-3323
Application No. 10/287,151

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and argument." **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

With respect to claim 5, Appellant argues in the Appeal and Reply Briefs that Schmier does not teach claimed invention. Particularly, Appellant asserts that Schmier does not teach estimating and sending the time-of-arrival bounds for a confidence interval for a user in transit from a source location to a destination location. We have already addressed this argument in the discussion of claim 1 above, and we agree with Appellant. It is therefore our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to the ordinarily skilled artisan the invention as set forth in claim 5. Accordingly, we will not sustain the Examiner's rejection of claim 5.

Appeal No. 2006-3323
Application No. 10/287,151

III. Under 35 U.S.C. § 103, is the Rejection of Claims 4 and 7 as being unpatentable over Schmier in combination with Ran and Ryu, Respectively, Proper?

With respect to claims 4 and 6, Appellant argues in the Appeal and Reply Briefs that Schmier does not teach claimed invention. Particularly, Appellant asserts that Schmier does not teach estimating and sending the time-of-arrival bounds for a confidence interval for a user in transit from a source location to a destination location. We have already addressed this argument in the discussion of claim 1 above, and we agree with Appellant. Further, Appellant argues that neither Ran nor Ryu cures the deficiencies of Schmier. We also agree with Appellant. It is therefore our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to the ordinarily skilled artisan the invention as set forth in claims 4 and 7. Accordingly, we will not sustain the Examiner's rejection of claims 4 and 7.

Appeal No. 2006-3323
Application No. 10/287,151

CONCLUSION

In view of the foregoing discussion, we have not sustained the Examiner's decision rejecting claims 1, 3 and 6 under 35 U.S.C. § 102. We have also not sustained the Examiner's decision rejecting claims 4, 5 and 7 under 35 U.S.C. § 103. Therefore, we reverse.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ERROL A. KRASS)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
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JEAN R. HOMERE)	
Administrative Patent Judge)	

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Appeal No. 2006-3323
Application No. 10/287,151

DEMONT & BREYER, L.L.C.
SUITE 250
100 COMMONS WAY
HOLMDEL, NJ 07733