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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/802,016	07/17/2015	Chetan Parshottam Bhadracha	GGL-1013	1768
100462	7590	09/30/2020	EXAMINER	
Dority & Manning P.A. and Google LLC Post Office Box 1449 Greenville, SC 29602			MALLEY SR., DANIEL P	
			ART UNIT	PAPER NUMBER
			3648	
			NOTIFICATION DATE	DELIVERY MODE
			09/30/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* CHETAN PARSHOTTAM BHADRICHA,  
ALEXANDER VARSHAVSKY, and STEFANO MAGGIOLO

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Appeal 2020-000298  
Application 14/802,016  
Technology Center 3600

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Before EDWARD A. BROWN, MICHAEL J. FITZPATRICK, and  
BRANDON J. WARNER, *Administrative Patent Judges*.

BROWN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> seeks review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 1–4, 6–15, 17, 19, and 20.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Google LLC as the real party in interest. Appeal Br. 3.

<sup>2</sup> Claims 5, 16, and 18 have been cancelled. Appeal Br. (Claims App.); Advisory Act. 2 (Amdt. After Final Act. cancelling claims 16 and 18 entered).

## CLAIMED SUBJECT MATTER

Appellant's disclosure "relates generally to determining a context associated with a user based on observed beacon devices and, more particularly, to inferring user context based on a comparison of location data to detected beacon device data." Spec. ¶ 1.

Claims 1, 19, and 20 are independent claims. Claim 1 illustrates the claimed subject matter and is reproduced below with reference letters added in brackets.

1. A computer-implemented method of determining user context, the method comprising:

[A] receiving, by one or more computing devices, location information associated with a user device, wherein the user device is associated with a user and the location information includes one or more geographical locations of the user device at one or more time periods;

[B] detecting, by the one or more computing devices, first beacon data and second beacon data broadcast by a first set of beacon devices and a second set of beacon devices respectively;

[C] determining, by the one or more computing devices, whether the first beacon data and the second beacon data are different;

[D] responsive to the first beacon data and the second beacon data being different, determining, by the one or more computing devices, based in part on the location information, a speed of the user device during the one or more time periods in which the location data is received and the first set of beacon devices and the second set of beacon devices are detected;

[E] determining, by the one or more computing devices, a context associated with the user based at least in part on a correspondence of the speed of the user device to at least one of a plurality of profiles associated with a corresponding plurality of scheduled routes comprising one or more locations traveled using a particular mode of transportation; and

[F] providing for display, by the one or more computing devices, one or more notifications associated with the determined context.

Appeal Br. 16 (Claims App.).

### REJECTIONS ON APPEAL<sup>3</sup>

Claims 1, 2, 8, 10–13, 17, 19, and 20 are rejected under 35 U.S.C. § 103 as unpatentable over Westerinen (US 2010/0317371 A1, published Dec. 16, 2010) and Kuhn (US 2012/0185419 A1, published July 19, 2012).<sup>4</sup>

Claims 3, 4, and 6 are rejected under 35 U.S.C. § 103 as unpatentable over Westerinen, Kuhn, and Rose (US 2016/0065722 A1, published Mar. 3, 2016).

Claims 3, 4, and 6 are rejected under 35 U.S.C. § 103 as unpatentable over Westerinen, Kuhn, and Kulikov (US 2016/0353245 A1, published Dec. 1, 2016).

Claims 7, 9, 14, and 15 are rejected under 35 U.S.C. § 103 as unpatentable over Westerinen, Kuhn, and Ben-Akiva (US 2015/0198722 A1, issued July 16, 2015).

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<sup>3</sup> Appellant notes that the Final Office Action includes a rejection under 35 U.S.C. § 112(b), which lists claims 1–4 and 6–20 in the rejection heading, but only addresses claims 16 and 18 in the substance of the rejection. Appeal Br. 5; *see id.* n.1; Final Act. 4–5. The listing of claims other than claims 16 and 18 in the heading appears to be a typographical error. As claims 16 and 18 have been cancelled, we understand that the following rejections are moot: claim 18 under 35 U.S.C. § 112(a); claims 16 and 18 under 35 U.S.C. § 112(b); and claim 18 under 35 U.S.C. § 103 over Westerinen, Kuhn, and Hategan (US 2013/0184007 A1, published July 18, 2013). Final Act. 3–5, 17.

<sup>4</sup> The rejection heading also lists since-cancelled claim 16. Final Act. 6.

ANALYSIS

*Obviousness over Westerinen and Kuhn*  
(Claims 1, 2, 8, 10–13, 17, 19, and 20)

Claims 1, 2, 8, 10–13, and 17

The Examiner finds that Westerinen discloses most limitations of claim 1. Final Act. 6–10. Particularly, the Examiner finds that Westerinen discloses limitations A–D and F, but, as for limitation E, only does not disclose that the routes are “scheduled routes comprising one or more locations traveled using a particular mode of transportation.” *Id.* at 9 (citing Westerinen ¶¶ 3, 4, 36–59, 61, 67, 79–89, 97, Figs. 1–4, 6–13). The Examiner relies on Kuhn as teaching this requirement of limitation E. *Id.* at 9–10 (citing Kuhn ¶¶ 19–21, 23–25, 32–35, 41–48, Figs. 1–3). Namely, the Examiner finds that Kuhn teaches:

a mobile device . . . configured to determine a user’s behavioral context based on detecting a user profile (from a plurality of dynamic user profiles) when sensed parameters match one of the profiles stored in the device; wherein certain profiles correspond to traveling by bus, train, boat, airplane and other such *scheduled routes*; wherein one of the parameters used for matching profiles associated with scheduled routes is velocity (speed).

*Id.* at 10. The Examiner concludes that it would have been obvious to one of ordinary skill in the art to apply Kuhn’s teachings to Westerinen to provide a method “configured to dynamically determine contextual changes associated with a user based on changes associated with sensors disposed on the user’s mobile device.” *Id.* (citing Kuhn ¶¶ 9–12).

Appellant contends that Westerinen and Kuhn do not teach or suggest limitation E. Appeal Br. 8. According to Appellant, Kuhn merely describes

identifying a current user behavior based at least in part on “sensed indicators,” but fails to teach or suggest ““correspondence of the speed of the user device to at least one of a plurality of profiles associated with a **corresponding plurality of scheduled routes comprising one or more locations traveled using a particular mode of transportation,**”” as recited in limitation E. *Id.* at 9 (citing Kuhn ¶ 19) (hereafter also “correspondence requirement”). Appellant contends that the ““estimated route of travel of the mobile device’ sensed indicator” and the ““one or more schedule files’ sensed indicator,” as described in Kuhn, fail to teach or suggest the correspondence requirement. *Id.* at 10 (citing Kuhn ¶¶ 31, 44, 59). Appellant concedes that Kuhn describes ““a dynamic user profile may indicate that a user may be driving or riding in a particular automobile and/or other type of vehicle or transportation mechanism (e.g., bus, train, boat, airplane, etc.),”” but Appellant asserts, “Kuhn simply describes ‘a dynamic user profile’ that is associated with some ‘current inferable user behavior context.’” *Id.* at 10–11 (citing Kuhn ¶ 23). As for the Examiner’s finding that Kuhn discloses “that ‘one of the parameters used for matching profiles associated with scheduled routes is velocity (speed),”” Appellant asserts, “in describing the obtainment of velocity relative to the movement of the mobile device Kuhn merely describes obtaining information about the mobile device itself,” which also does not teach or suggest the correspondence requirement. *Id.* at 11 (citing Final Act. 10, quoting Kuhn ¶ 35).

In response, the Examiner maintains that Kuhn teaches limitation E. Ans. 5. As for the recitation in limitation E that ““context associated with the user [is] based at least in part on a correspondence of the speed of the

user device to at least one of a plurality of profiles,” the Examiner references the following description in Kuhn:

At example block 304, mobile device 102 may determine whether a *dynamic user profile* 220, which is indicative of a current inferable *user behavior context*, is to transition from a first state to a second state *based, at least in part, on one or more sensed indicators* 224. For example, at block 304, a mobile device 102 may determine *whether one or more sensed indicators sufficiently “match” one or more stored patterns* or models of behavior previously associated with one or more states 222. . . .

Ans. 6 (quoting Kuhn ¶ 45, citing Kuhn ¶ 25, Fig. 3). The Examiner explains that, because Kuhn teaches that velocity (speed) is a sensed indicator, “it follows that the mobile device determines whether a *velocity indicator* sufficiently matches one or more stored patterns or models of behavior when determining a state of the dynamic user profile indicative of user context.” *Id.* (citing Kuhn ¶ 35). In the Reply Brief, Appellant does not apprise us of error in this explanation.

As for the recitation in limitation E that “at least one of a plurality of profiles [is] associated with a corresponding plurality of scheduled routes comprising one or more locations traveled using a particular mode of transportation,” the Examiner quotes the following description in Kuhn:

“. . . a *dynamic user profile* may have different states depending, at least in part, on differences relating to one or more user activities. For example, a user activity of driving an automobile may be associated with different states. For example, a *dynamic user profile may indicate that* a user may be *commuting to or from work* as a first state, to or from a *child’s school* as a second state, to a *hospital* (e.g., for an emergency, appointment, etc.) as a third state, to a *particular destination* (e.g., second home, vacation spot, etc.) as a fourth state, etc. In certain instances, for example, one or more states

of a *dynamic user profile* may indicate that a user may be driving or riding in a *particular automobile and/or other type of vehicle or transportation mechanism* (e.g., *bus, train, boat, airplane*, etc.) . . .”

Ans. 7 (quoting Kuhn ¶ 23). Additionally, the Examiner points out that Kuhn discloses:

“. . . a *dynamic user profile may have* different states depending on periods of time associated with a *scheduled, planned*, or otherwise identifiable or reoccurring *event*, such as, e.g., a workday, a lunch break, a meal time, a weekend, a vacation day, a holiday, a birthday, an exercise class, an appointment, a *commute time*, a religious service, *an arrival or departure time*, a theater or game time, hours of operation of a [point of interest] POI, *a particular starting or ending time relating to an event or object*, and/or the like or some combination thereof.”

*Id.* (quoting Kuhn ¶ 24).

Regarding the disclosure in paragraph 23 of Kuhn, Appellant again acknowledges that “such a dynamic user profile ‘may indicate that a user may be driving or riding in a particular automobile and/or other type of vehicle or transportation mechanism,’” but contends that neither the “dynamic user profile” nor the “states” are described as “scheduled routes,” let alone as teaching or suggesting

“determining . . . a context associated with the user based at least in part on a correspondence of the speed of the user device to at least one of a plurality of profiles associated with a **corresponding plurality of scheduled routes comprising one or more locations traveled using a particular mode of transportation.**”

Reply Br. 2–3 (quoting claim 1).

Appellant further contends that the disclosure in paragraph 24 of Kuhn merely describes a “dynamic user profile’ that includes various states

that depend on periods of time associated with ‘a scheduled, planned, or otherwise identifiable or reoccurring event.’” Reply Br. 3. Appellant contends that the described “‘event[s]’” do not disclose or suggest the claimed “‘scheduled routes’” and the exemplary different states of a dynamic user profile described in Kuhn simply include a variety of different events, none of which teaches or suggests the same “determining” as discussed above in regard to the description in paragraph 23 of Kuhn. *Id.*

Appellant’s contentions are unpersuasive. Initially, we note limitation E does not limit the mode of transportation to a particular mode, and does not require the scheduled routes to necessarily include more than one location. As discussed, the Examiner finds that Kuhn teaches sensing the velocity (and thus, the speed and direction) of a user device (and thus, a user carrying the device), and finds that the sensed velocity is a “sensed indicator.” Ans. 6. Appellant does not apprise us of error in this finding. The Examiner also finds that Kuhn teaches that the mobile device may determine whether a sensed indicator sufficiently matches a stored pattern of behavior associated with one or more states. Ans. 6. This teaching is not expressly limited to a certain behavior or to certain state(s). Appellant does not persuade us that this teaching does not encompass user device velocity as a sensed indicator. As described in paragraph 23 of Kuhn, one or more states of a dynamic user profile may indicate that a user may be driving or riding in a particular mode of transportation mechanism, such as an automobile, bus, train, boat, or airplane. Buses, trains, and airplanes, for example, would reasonably be expected to operate with “scheduled routes comprising one or locations traveled using [that] particular mode of transportation,” as claimed. Further, these exemplary modes of

transportation would reasonably be expected to have different “scheduled routes” to or between different locations, and/or to or between the same location(s) at different times. And paragraph 24 of Kuhn describes that a dynamic user profile may have different states associated with a scheduled event, such as a commute time, an arrival or departure time, and/or a particular starting or ending time. Bus, train, and airplane routes, for example, would reasonably be expected to have scheduled arrival and departure times at locations, and/or particular starting and ending times, and thus, be “scheduled routes.”

As pointed out by the Examiner, “a proper analysis requires that a prior art reference be considered in its entirety, i.e., as a whole.” Ans. 5 (citing *Allied Erecting v. Genesis Attachments*, 825 F.3d 1373, 1381 (Fed. Cir. 2016)). Accordingly, even if no single paragraph of Kuhn cited by the Examiner discloses every feature of limitation E, that alone would not persuade us that Kuhn fails to sufficiently teach or suggest this limitation. The Examiner has properly relied on Kuhn in its entirety. Additionally, the Examiner finds that Westerinen teaches most aspects of limitation E. Appellant does not apprise us of error in this finding. To the extent Appellant is contending that Kuhn or Westerinen must provide explicit disclosure as to limitation E, we disagree. An Examiner is not required to “seek out precise teachings directed to the specific subject matter of the challenged claim.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Rather, in an obviousness analysis, an Examiner is to consider not only the express disclosures of the applied references, but also the “inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

For these reasons, we sustain the rejection of claim 1 as unpatentable over Westerinen and Kuhn. Appellant relies on the dependency of claims 2, 8, 10–13, and 17 from claim 1 for patentability. Appeal Br. 13–14. Accordingly, we also sustain the rejection of claims 2, 8, 10–13, and 17 for the same reasons as claim 1.

Claim 19

Claim 19 is directed to a computing system. Appeal Br. 19–20. Appellant contends that claim 19 is patentable over Westerinen and Kuhn merely for reasons similar to those discussed for claim 1. Appeal Br. 11–12. Accordingly, we sustain the rejection of claim 19 as unpatentable over Westerinen and Kuhn for reasons similar to those for claim 1.

Claim 20

Claim 20 is directed to one or more tangible non-transitory computer-readable media. Appeal Br. 20. Appellant contends that claim 20 is patentable over Westerinen and Kuhn merely for reasons similar to those discussed for claim 1. Appeal Br. 12–13. Accordingly, we sustain the rejection of claim 20 as unpatentable over Westerinen and Kuhn for reasons similar to those for claim 1.

*Obviousness over Westerinen, Kuhn, and Rose or Kulikov  
(Claims 3, 4, and 6)*

*Obviousness over Westerinen, Kuhn, and Ben-Akiva  
(Claims 7, 9, 14, and 15)*

Appellant contends that dependent claims 3, 4, 6, 7, 9, 14, and 15 are patentable for the same reasons argued for parent claim 1, and further contends that Rose, Kulikov, and Ben-Akiva each fail to cure the deficiency

in the rejection of claim 1. Appeal Br. 14–15. As Appellant does not apprise us of error in the rejection of claim 1, we thus sustain the rejections of claims 3, 4, 6, 7, 9, 14, and 15 for reasons similar to those for claim 1.

### CONCLUSION

In summary:

<b>Claim(s) Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1, 2, 8, 10– 13, 17, 19, 20	103	Westerinen, Kuhn	1, 2, 8, 10– 13, 17, 19, 20	
3, 4, 6	103	Westerinen, Kuhn, Rose	3, 4, 6	
3, 4, 6	103	Westerinen, Kuhn, Kulikov	3, 4, 6	
7, 9, 14, 15	103	Westerinen, Kuhn, Ben-Akiva	7, 9, 14, 15	
<b>Overall Outcome</b>			1–4, 6–15, 17, 19, 20	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED