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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 SHANNON M. MA, DEVRIM VAROGLU,
MOHAMMAD BIDABADI, and PAOLO D. CONCHA

_____

Appeal 2018-000366
Application 13/714,753
Technology Center 2600

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Before JAMES R. HUGHES, LINZY T. McCARTNEY, and
MATTHEW J. McNEILL, *Administrative Patent Judges*.

McCARTNEY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek review under 35 U.S.C. § 134 of the Examiner's final
rejection of claims 1–4, 9–13, 18–20, and 23–29. We have jurisdiction under
35 U.S.C. § 6(b).

We reverse.

BACKGROUND

The present patent application "relates to the alarm and notification functions of smartphones." Specification ¶ 1, filed December 14, 2012. Claims 1, 10, and 20 are independent. Claim 1 illustrates the claimed invention:

> 1. A non-transitory program storage device comprising instructions stored thereon to cause one or more processors to:
>
> receive data from at least one sensor responsive to a user's activity;
>
> determine a likely activity of the user based at least in part on the sensor data and prior-acquired activity data, wherein determining the likely activity includes determining a likely time when the user went to sleep; and
>
> change an alarm activation time of the device based at least in part on a first scheduled event for the user and the likely time the user went to sleep, wherein changing the alarm activation time includes:
>
>> determining a default alarm activation time;
>>
>> determining, based at least in part on the likely time when the user went to sleep, that the default alarm activation time will result in insufficient sleep for the user;
>>
>> determining, based on the first scheduled event, that the default alarm activation time can be changed to a later time; and
>>
>> changing the alarm activation time from the default alarm activation time to the later time.

Appeal Brief 10, filed March 23, 2016. ("App. Br.").

REJECTIONS

Claims	Basis	References
29	§ 112	
1, 2, 4, 9–11, 13, 18–20, and 23–28	§ 103	Huppi[1] and Hu[2]
3 and 12	§ 103	Huppi, Hu, and Roka[3]

DISCUSSION

We have reviewed the Examiner's rejections and Appellants' arguments, and for the reasons explained below, we agree with Appellants that the Examiner erred.

Section 112 Rejection

Claim 29 depends from claim 1 and recites a processor configured to "change, responsive to changing the alarm activation time, a time for deactivating a do not disturb function of the device from a default deactivation time *that is prior to the later time to a different time that is at or after the later time*." App. Br. 14 (emphasis added).

The Examiner rejected claim 29 as indefinite under 35 U.S.C. § 112 because the Examiner found the emphasized language "very confusing and indefinite with all the different time[s] specified at multiple instances." Final Office Action 7, mailed September 3, 2015 ("Final Act."). The Examiner interpreted the emphasized language to encompass moving "the 'do not disturb time'" both "to just a later time than previously setup. . . . which

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[1] Huppi et al. (US 8,614,431 B2; Dec. 24, 2013).
[2] Hu et al. (US 2011/0267196 A1; Nov. 3, 2011).
[3] Roka (US 8,299,902 B1; Oct. 30, 2012).

could be *before* the later time specified in [c]laim 1" and "to *after* the later time specified in claim 1 has occurred." Answer 11, mailed September 28, 2016 (emphasis added) (bold omitted) ("Ans.").

Appellants contend claim 29 "is clear as written" and "can be parsed and unambiguously understood" because claim 29 defines the other times in the claim relative to the recited "later time." App. Br. 8.

We agree with Appellants. Claims must be "definite," that is, claims must "particularly point[] out and distinctly claim[] the subject matter which the inventor . . . regards as the invention." 35 U.S.C. § 112(b). During prosecution, "[a] claim is indefinite when it contains words or phrases whose meaning is unclear." Manual of Patent Examining Procedure § 2173.05(e). A claim is indefinite, for instance, if the claim is "ambiguous, vague, incoherent, opaque, or otherwise unclear in describing and defining the claimed invention," *In re Packard*, 751 F.3d 1307, 1311 (Fed. Cir. 2014), or if it "is amenable to two or more plausible claim constructions," *Ex parte Miyazaki*, 89 USPQ.2d 1207, 1211 (BPAI 2008) (precedential).

Claim 29 is definite under this standard. The plain language of claim 29 makes clear that the recited processor changes "a time for deactivating a do not disturb function of the device" from a default time before "the later time" to a future time "at or after the later time." The Examiner has not adequately explained why claim 29 encompasses changing the do-not-disturb deactivation time to a future time *before* "the later time," and we see no basis for interpreting the claim in this way. For the above reasons, on this record, we do not sustain the Examiner's rejection of claim 29 under 35 U.S.C. § 112.

Section 103 Rejection

Claim 1 recites "change an alarm activation time of the device based at least in part on a first scheduled event for the user *and the likely time the user went to sleep*." App. Br. 10 (emphasis added). Appellants argue Hu does not teach or suggest this limitation because Hu adjusts an alarm "based on the end of a sleep cycle" instead of "when the user went to sleep." App. Br. 6. Appellants assert one of ordinary skill in the art would understand that "sleep cycle" means "periods of deep sleep [that] alternate with periods of near wakefulness" and that "[d]etermining the end of a sleep cycle is based on real-time analysis of sleep data collected while the user sleeps . . . not on the time the user initially went to sleep." App. Br. 6.

We find Appellants' arguments persuasive. The Examiner found that Hu discloses past and present "sleep cycle data [that] *contains* [the] likely time the user went to sleep" and teaches adjusting an alarm so an "individual is . . . preferably woken up near [the] time when the *sleep cycle data* indicates an optimal sleep state." Final Act. 10 (emphasis added) (bold omitted) (citing Hu ¶¶ 14, 22, 27, 29, Fig. 5B); Ans. 5–7. Based on these findings, the Examiner determined Hu teaches changing an alarm based in part on the likely time the user went to sleep. *See* Final Act. 10–11.

The Examiner has not provided adequate support for this determination. The cited parts of Hu do not teach that sleep cycle data *contains* the time the user went to sleep as found by the Examiner. Rather, the cited parts of Hu teach using sleep cycle data to *determine* sleep parameters that include the time a user fell asleep. The portions of Hu cited by the Examiner teach using sleep cycle data or sleep cycles to adjust an alarm, not the determined time the user fell asleep.

Hu teaches that sleep cycle data consists of sensor data collected while a user sleeps, the data including "the motion of the sleeper" (for example, accelerometer and gyroscope data) and "electrical activity of a body system" (for example, EEG and EKG data). Hu ¶ 17. Hu teaches using sleep cycle data to determine "various parameters of sleep patterns of an individual" such as a "time of falling asleep." *See* Hu ¶ 14 ("The sleep cycle analysis is preferably performed on the sleep cycle data *to determine* various parameters of sleep patterns of an individual, including . . . time of falling asleep . . . ." (emphasis added)). Although Hu teaches using sleep cycle data to determine a time of falling asleep, the cited portions of Hu do not teach that sleep cycle data contains a time of falling asleep as found by the Examiner.

This distinction is important because the parts of Hu cited by the Examiner describe using *sleep cycle data or sleep cycles* to adjust an alarm, not the *determined time of falling asleep*. For example, the cited parts of Hu teach that an "individual is then preferably woken up near that time when the *sleep cycle data* indicates an optimal sleep state for being awakened . . . ." Hu ¶ 22 (emphasis added); *see also* Hu ¶ 29. The cited parts of Hu also teach that an "alarm is preferably activated when an individual is at the end of a *sleep cycle*." Hu ¶ 27 (emphasis added). These disclosures track Figure 5B of Hu, which appears to show a method of adjusting an alarm based on the end of a sleep cycle. *See* Hu Fig. 5B; *see also* Hu ¶ 22 (describing the method shown in Figure 5B). The Examiner has not shown that either Hu's sleep cycle data or sleep cycles include a time of falling asleep.

Finally, the Examiner stated that it would have been obvious to use the time a person fell asleep to modify an alarm time. *See* Ans. 7. But the Examiner failed to provide any persuasive evidence or reasoning to support

this statement. *See* Ans. 7. "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

For the above reasons, on this record, we do not sustain the Examiner's rejection of claim 1 and its dependent claims. Because the Examiner's rejection of independent claims 10 and 20 suffers from similar deficiencies, we also do not sustain the Examiner's rejection of these claims and their respective dependent claims.

CONCLUSION

Claims Rejected	Basis	Reference(s)	Affirmed	Reversed
29	§ 112			29
1, 2, 4, 9–11, 13, 18–20, and 23–28	§ 103	Huppi and Hu		1, 2, 4, 9–11, 13, 18–20, and 23–28
3 and 12	§ 103	Huppi, Hu, and Roka		3 and 12
Summary				1–4, 9–13, 18–20, and 23–29

REVERSED