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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ASHLEY COLLEY, KARI JUHA AULIS KIVELÄ,
MARKKU OLAVI KOSKELA, MARKO PETTERI LAHTELA,
and JUUSO SAMUEL NISSILÄ¹

Appeal 2018-000748
Application 14/143,937
Technology Center 3700

Before STEVEN D.A. McCARTHY, MICHELLE R. OSINSKI, and
LEE L. STEPINA, *Administrative Patent Judges*.

OSINSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's
decision rejecting claims 2–21.² We have jurisdiction under 35 U.S.C.
§ 6(b).

We REVERSE.

¹ JouZen Oy (“Appellant”) is the Applicant as provided in 37 C.F.R. § 1.46
and is identified as the real party in interest. Appeal Br. 3.

² Claim 1 is cancelled. Appeal Br. 22 (Claims App.).

THE CLAIMED SUBJECT MATTER

Claims 11, 16, and 21 are independent. Claim 11 is reproduced below.

11. A method of measuring stress, comprising:
 - detecting activity level and measuring heart rate with a system configured for attachment to an exposed region of a body of a user;
 - identifying a provocation from detected activity level and measured heart rate;
 - recording heart rates before and after the identified provocation;
 - computing heart rate variability from the recorded heart rates; and
 - using the activity level, heart rate and heart rate variability to form, a three-dimensional health space defining acceptable stress level limits.

EVIDENCE

The Examiner relied on the following evidence in rejecting the claims on appeal:

Gavish	US 2004/0116784 A1	June 17, 2004
Jain	US 2012/0289789 A1	Nov. 15, 2012

THE REJECTIONS

- I. Claims 2–19 and 21 stand rejected under 35 U.S.C. § 102(a)(1) as anticipated by Jain. Final Act. 4–7.
- II. Claim 20 stands rejected under 35 U.S.C. § 103 as unpatentable over Jain and Gavish. *Id.* at 8.

OPINION

Rejection I

The Examiner finds that Jain discloses all of the limitations of independent claims 11, 16, and 21, including “a three-dimensional health space defining acceptable stress limits,” as recited in each of the independent claims. Final Act. 5–7. With respect to forming a three dimensional health space, the Examiner takes the position that “[f]ormation of a stress space is not limited to literal plotting of discrete data points in a visual three-dimensional representation[,] but rather includes defining a multidimensional model ‘space.’” Ans. 2. The Examiner continues that “[i]n Jain, the acceptable ‘space’ is formed by the solution to the statistical model described in ¶¶[201–203] and ¶¶[229–240]” and “Jain clearly teaches simultaneous analysis of three or more dimensions.” *Id.* at 3.

The Examiner maintains that “[a]s is clear from the context of . . . ¶[260] of ‘mapping the data with respect to each other,’ the data referred to is explicitly listed in ¶¶[0252–0257] including acceleration, heart rate, blood pressure, blood-oxygen level, and psychological state/mood” and “[t]his is at least five axes” and “all of these quantities are contextualized together, not discretely in pairs.” Final Act. 3–4 (citing Jain ¶ 260); *see also id.* at 2 (“[E]ach individual datastream of Jain is a dimension of a health space. In the stress monitoring system of Jain, the datastreams are compared individually, i.e., heart-rate is compared to baseline heart-rate and accelerometer data is compared to baseline accelerometer data, thereby defining individual health space axes. Jain further teaches that the stress model combines these axes together to form a stress index.”); Jain ¶ 260 (“[A]nalysis system 180 may contextualize the acceleration data with other

data, such as, for example, by mapping the data with respect to each other. As an example and not by way of limitation, analysis system 180 may contextualize accelerometer data of the person with heart-rate data, blood-pressure data, pulse-oximetry data, and mood data of the person.”); Jain ¶ 250 (“[A] stress model may be an algorithm based on renal-Doppler data *and* accelerometer data *and one or more of* heart-rate data, blood-pressure data, pulse-oximetry data, or mood data.”) (emphasis added); Jain ¶ 262 (“[A]nalysis system 180 may use a stress model of a person to determine the current stress index of the person based on the analysis of data sets from the accelerometer data stream *and one or more other* data streams with respect to each other.”) (emphasis added).

With respect to such a health space defining acceptable stress limits, the Examiner takes the position that “Jain teaches that any amount of stress is unacceptable, and monitors using a stress model for that reason.” Ans. 3–4. The Examiner continues that:

[e]vidence of this interpretation of Jain can be found in: (internal citations omitted) ¶[0074] “. . . the user inputs ‘stressed’ into mood sensor, the analysis system may determine that a therapeutic feedback is needed.”; ¶[0141] “. . . it may be desirable to avoid these particularly stressful driving situations that cause a spike in the user’s heart rate. These stressful driving situations may be identified by contextualizing the prior data streams . . .” and ¶[0404] where each recommended therapy based on the user’s current health status is a relaxation therapy.

Id. at 4.

Appellant argues that “even if Jain discloses that any stress is unacceptable, this is not equivalent to the claimed ‘acceptable stress level limits’ which are defined by the claimed three-dimensional health space.”

Reply Br. 2. Appellant continues that “[g]iven that Jain asserts that any stress is unacceptable, a single stress value necessarily represents the point beyond which a user is considered to be stressed and therefore in an unhealthy state,” whereas the independent claims recite plural “limits.” *Id.* Appellant argues that because “Jain does not disclose a plurality of stress levels to which a current stress level is compared in order to establish the health/stress state of the patient, Jain clearly does not teach ‘acceptable stress level limits’ plural.” *Id.*

The Examiner does not adequately explain how the combinations of data streams in view of the stress model of Jain that the Examiner has determined form a multi-dimensional health space (Final Act. 2) *define acceptable stress limits*. That is, Jain discloses the use of a stress model to calculate a current stress level (Jain ¶ 262), but does not characterize the acceptability or unacceptability of the calculated current stress level in any way. Further, it is not clear how the solution to the disclosed stress model specifies, in particular, that only no stress is acceptable and all other stress levels are unacceptable. Moreover, under the Examiner’s articulated rejection in which Jain is interpreted as teaching that any amount of stress is unacceptable (Ans. 3–4), it would appear that the only acceptable stress limit would be no stress and, consequently, it is unclear how the stress model would be able to form a three-dimensional health space with multiple points indicating acceptable stress limits.

For the foregoing reasons, we find that the Examiner erred in finding that Jain discloses all of the limitations of independent claims 11, 16, and 21. We do not sustain the rejection of claims 11, 16, and 21, or claims 2–10, 12–

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15, and 17–19 depending therefrom, under 35 U.S.C. § 102(a)(1) as anticipated by Jain.

Rejection II

The Examiner’s rejection of claim 20 under 35 U.S.C. § 103 with Jain as the primary reference relies on the same erroneous finding that Jain discloses a three-dimensional health space defining acceptable stress limits. Final Act. 8. The Examiner does not explain how Gavish would remedy the deficiency of Jain. Accordingly, we do not sustain the rejection of claim 20 under 35 U.S.C. § 103 as unpatentable over Jain and Gavish.

DECISION

The Examiner’s decision to reject claims 2–19 and 21 under 35 U.S.C. § 102(a)(a) as anticipated by Jain is reversed.

The Examiner’s decision to reject claim 20 under 35 U.S.C. § 103 as unpatentable over Jain and Gavish is reversed.

REVERSED