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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SHENG ZHONG

Appeal 2011-004739
Application 11/314,690[1]
Technology Center 2400

Before THU A. DANG, JAMES R. HUGHES, and
GREGORY J. GONSALVES, *Administrative Patent Judges*.

HUGHES, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] Application filed December 20, 2005. The real party in interest is Broadcom Corp. (App. Br. 2.)

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134 of the Examiner's final decision rejecting claims 1-5 and 13-17. The Examiner indicates claims 6-12 and 18-24 include allowable subject matter. (App. Br. 2.) We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

Appellant's Invention

The invention at issue on appeal concerns a method and system for image processing in particular, motion-based video processing utilizing a non-linear blending factor. (Spec., ¶¶ [003], [011] - [012]; Abstract.)[2]

Representative Claim

Independent claim 1, reproduced below, with disputed limitations italicized, further illustrates the invention:

> 1. A method for processing images, the method comprising:
>
> performing by one or more processors and/or circuits:
>
> *computing a blending factor comprising a nonlinear relationship to a motion metric that defines an amount of motion between a current video picture and one or both of at least one preceding video picture and at least one subsequent video picture*; and
>
> adjusting at least one pixel in said current video picture based on said computed blending factor.

[2] We refer to Appellant's Specification ("Spec."); Appeal Brief ("App. Br.") filed June 28, 2010; and Reply Brief ("Reply Br.") filed November 22, 2010. We also refer to the Examiner's Answer ("Ans.") mailed September 21, 2010.

Rejections on Appeal

1. The Examiner rejects 1-4 and 13-16 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application Publication No.: US 2002/0027610 A1, published Mar. 7, 2002 ("Jiang").

2. The Examiner rejects claims 5 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Jiang and U.S. Patent No.: 5,500,685, issued Mar. 19, 1996 ("Kokaram").

ISSUES

Based on our review of the administrative record, Appellant's contentions, and the Examiner's findings and conclusions, the pivotal issues before us follow:

1. Does the Examiner err in finding that Jiang discloses "computing a blending factor comprising a nonlinear relationship to a motion metric" within the meaning of independent claim 1 and the commensurate limitation of claim 13?

2. Does the Examiner err in finding that Jiang discloses "computing said blending factor and said motion metric for one or more of a finite impulse response (FIR) noise reduction (NR) mode, an infinite impulse response (IIR) NR mode, and an adaptive blended NR mode" within the meaning of claim 3 and the commensurate limitation of claim 15?

3. Does the Examiner err in finding that the combination of Jiang and Kokaram is properly combinable?

FINDINGS OF FACT

We adopt the Examiner's findings in the Answer and the Final Office Action mailed February 2, 2010 as our own, except as to those findings that we expressly overturn or set aside in the Analysis that follows.

ANALYSIS

Based on Appellant's arguments (App. Br. 4-12), we select independent claim 1 and dependent claims 3 and 5 as representative of Appellant's arguments and groupings with respect to claims 1-5 and 13-17. 37 C.F.R. § 41.37(c)(1)(iv).

The § 102 Rejection of Claim 1

Appellant contends that the Jiang fails to disclose certain features of the claimed invention, in particular the recited blending factor. (App. Br. 5-6; Reply Br. 2-5). Specifically, Appellant contends:

> Jiang does not, however, disclose or suggest "computing [or circuitry to compute] a blending factor comprising a nonlinear relationship to a motion metric." Rather, Jiang merely discloses using blending factors that are stored within the LUT [Look-Up-Table] 111 and associating a particular motion metric value to one of those blending factors. Hence, Jiang does not disclose computing the blending factors at all, let alone computing one comprising a nonlinear relationship to a motion metric.

(App. Br. 5.) Appellant further contends that "[**r**]**etrieving** a blending factor from a look-up table **does not constitute** '**computing**' a blending factor, let alone computing a blending factor comprising a nonlinear relationship to a motion metric." (App. Br. 6.)

The Examiner sets forth a detailed explanation of the anticipation rejection in the Examiner's Answer with respect to each of the claims so

rejected (Ans. 3-10) and, in particular, the rejection of claim 1 (Ans. 3-4, 6-8). Specifically, the Examiner provides a detailed explanation with respect to Jiang's disclosure of a blending factor (Ans. 3-4, 6-8 (citing Jiang, ¶¶ [0020], [0034], [0043]-[0045]; Fig. 5)). We adopt these findings and this reasoning as our own.

Upon consideration of the evidence on this record and each of Appellant's contentions, we find that the preponderance of evidence on this record supports the Examiner's findings that Jiang discloses the disputed features of claim 1. Accordingly, we sustain the Examiner's rejection of claim 1 for the reasons set forth in the Answer, which we incorporate herein by reference. (Ans. 3-10.) We limit our additional analysis to the following points of emphasis.

We agree with the Examiner (and find) that Jiang describes "computing" a blending factor. In particular, we agree with the Examiner's broad but reasonable construction of "computing" to simply mean determining – as explained by the Examiner computing means "to determine especially by mathematical means" (Ans. 7). *See* Webster's New World College Dictionary, 4th Ed. (1999), *available at* http://www.yourdictionary.com/ (The definition of "compute" is "to determine a number, amount, etc."). Appellant seems to assert that "computing" requires an actual mathematical calculation (e.g., utilizing an undisclosed expression/algorithm) to derive the blending factor. (App. Br. 5-6; Reply Br. 3-4.) We decline to adopt Appellant's overly-narrow definition. We further note Appellant's own Specification (Spec. 20, ¶ [053] (values for "computing" blending factor are stored in registers)) and arguments (App. Br. 5 (Jiang's motion metrics are computed and utilized to

determine the blending factor in the look-up-table)) belie the proffered arguments that Jiang does not "compute" a blending factor. To the extent Appellant argues that Jiang's blending factor is not "non-linear" with respect to the motion metric, we note that this feature is non-functional descriptive material[3] that does not further limit the claim structurally or functionally. We further note that Appellant's own Specification describes a "piece-wise linear"/"non-linear" relationship (Spec. 20, ¶ [053]) similar to that disclosed by Jiang (Jiang, ¶¶ [0043]-[0044]).

Thus, Appellant does not persuade us of error in the Examiner's anticipation rejection or representative independent claim 1, independent claim 13 which includes limitations of commensurate scope, or dependent claims 2 and 14 which depend thereon and were not separately argued with particularity (App. Br. 7). Accordingly, we affirm the Examiner's rejection of claims 1, 2, 13, and 14.

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[3] The recited processor structure and functionality remain the same regardless of what the data (blending factor) constitutes, how the data may be named, or the relationship among the data and do not further limit the claimed invention either functionally or structurally. The informational content of the data thus represents non-functional descriptive material, which "does not lend patentability to an otherwise unpatentable computer-implemented product or process." *Ex parte Nehls*, 88 USPQ2d 1883, 1889 (BPAI 2008) (precedential). *See Ex parte Curry*, 84 USPQ2d 1272, 1274 (BPAI 2005) (informative) (Fed. Cir. Appeal No. 2006-1003), *aff'd*, Rule 36 (June 12, 2006) ("wellness-related" data in databases and communicated on distributed network did not functionally change either the data storage system or the communication system used in the claimed method). *See also In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *Nehls*, 88 USPQ2d at 1887-90 (discussing non-functional descriptive material).

The § 102 Rejections of Claims 3, 4, 15, and 16

Appellant also contends, with respect to claim 3, that Jiang fails to disclose certain features of the claimed invention, in particular, computing the blending factor for the various recited noise reduction modes. (App. Br. 7-8; Reply Br. 4-7). Specifically, Appellant contends that "Jiang fails to disclose or suggest at least the limitation of 'computing said blending factor and said motion metric for one or more of a finite impulse response (FIR) noise reduction (NR) mode, an infinite impulse response (IIR) NR mode, and an adaptive blended NR mode,' as recited by claim 3." (App. Br. 7.)

The Examiner submits that Jiang describes an adaptively calculated blending factor and noise reduction which is equivalent to the recited "adaptive blended NR mode." (Ans. 4-5, 8-9 (citing Jiang, ¶¶ [0020], [0025], [0038], [0043].)

We disagree with the Examiner's findings and agree with Appellant that the cited portions of Jiang do not disclose a FIR NR mode, an IIR NR mode, or a combination of the two, i.e., an adaptive blended NR mode. (App. Br. 7-8; Reply Br. 4-7.)

Consequently, based on this record, we conclude that the Examiner erred in finding that Jiang discloses Appellant's claimed blending factor. Accordingly, we reverse the Examiner's anticipation rejection of representative dependent claim 3, dependent claim 15 which includes limitations of commensurate scope, and dependent claims 4 and 16 which depend thereon.

The § 103 Rejection of Claims 5 and 17

The Examiner rejects representative dependent claim 5 over the combination of Jiang and Kokaram. (Ans. 5.) Appellant contends that

"claims 5 and 17 are allowable over Jiang at least for the reasons stated above with regard to claims 1 and 13[, and] Kokaram fails to overcome the above-noted deficiencies of Jiang." (App. Br. 10) Appellant further contends that "[r]egardless of whether or not this is an accurate assessment of Kokaram, the Examiner fails to provide 'articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness' in the detailed manner described in *KSR* [*International Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citation omitted)]." (App. Br. 11; *see* App. Br. 10-12; Reply Br. 8-9.)

We deem the Examiner's findings with respect to Kokaram to be undisputed because Appellant failed to rebut the Examiner's findings and conclusions with sufficient particularity. (App. Br. 10-11.) With respect to Appellant's combinability arguments, the Examiner provides a rationale for combining the references – "in order to remove noise from a current frame of an image sequence having plurality of frames comprising a motion picture" (Ans. 6), i.e., to improve performance and efficiency of the video/image processing system. Therefore, the Examiner has stated "some rational underpinning to support the legal conclusion of obviousness," *KSR*, 550 U.S. 398, 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)), and Appellant has not shown error therein.

We further conclude that it would have been well within the skill of one skilled in the art to combine such known techniques, i.e., to combine the Wiener filtering noise reduction method of Kokaram (either "in the frequency domain, effectively as an IIR [] filter, or in the spatio-temporal domain as an FIR [] filter" (Kokaram, col. 6, ll. 51-54)) with the blending factor and motion metric computation method of Jiang. *See KSR*, 550 U.S.

at 417 ("[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill" (citations omitted)).

Thus, Appellant does not persuade us of error in the Examiner's obviousness rejection of representative dependent claim 5 or dependent claim 17 which includes limitations of commensurate scope. Accordingly, we affirm the Examiner's obviousness rejection of claims 5 and 17.

CONCLUSIONS OF LAW

Appellant has not shown that the Examiner erred in rejecting claims 1, 2, 13, and 14 under 35 U.S.C. § 102(b).

Appellant has shown that the Examiner erred in rejecting claims 3, 4, 15, and 16 under 35 U.S.C. § 102(b).

Appellant has not shown that the Examiner erred in rejecting claims 5 and 17 under 35 U.S.C. § 103(a).

DECISION

We affirm the Examiner's rejections of claims 1, 2, 13, and 14 under 35 U.S.C. § 102(b).

We reverse the Examiner's rejections of claims 3, 4, 15, and 16 under 35 U.S.C. § 102(b).

We affirm the Examiner's rejections of claims 5 and 17 under 35 U.S.C. § 103(a).

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-IN-PART

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