

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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 GERARD BRIAND, JUAN MORONTA and ALAIN VERDIER

Appeal No. 2006-1240
Application No. 10/075,839

ON BRIEF

Before JERRY SMITH, BLANKENSHIP, and SAADAT, Administrative Patent Judges.

SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-14.¹

We reverse.

BACKGROUND

Appellants' invention is directed to a method and apparatus for detecting the reliability of a field of movement vectors of

¹ Claims 15 and 16, which have been added during the prosecution, appear to have been inadvertently omitted from the rejected claims.

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one image in a sequence of video images. According to Appellants, since a movement-vectors field is temporally uniform over a video sequence and undergoes very little time-domain variation, detecting instability in the time-domain suggests unreliable movement-vectors field (specification, paragraph bridging pages 1-2). In order to detect the reliability of a field of movement vectors, Appellants provide for a process that includes comparing the number of occurrences of the majority of vectors over two successive images and deciding on reliability on the basis of whether this measure lies within a predetermined bracket (specification, page 2).

Representative independent claim 1 is reproduced below:

1. Method of detecting the reliability of a field of movement vectors of one image in a sequence of video images, characterized in that it includes a stage of calculating a stability parameter $\text{Det_Stab}(t)$ for the field, on the basis of a comparison (4), over two successive images, of the number of occurrences of the majority vectors of the movement-vectors fields of each of these images, a field being defined as stable if the variation in the number of occurrences lies within a predefined bracket, and a stage of deciding on reliability (7) on the basis of this stability parameter.

The Examiner relies on the following references in rejecting the claims:

Avis et al. (Avis)	4,864,398	Sep. 5, 1989
Zhu	6,462,791	Oct. 8, 2002 (filed Jun. 30, 1997)

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Claims 1-3, 8, 9, and 11-14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zhu.

Claims 4-7, and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhu and Avis.

We make reference to the brief and answer for the respective positions of Appellants and the Examiner.

OPINION

The main point of contention is based on whether the claimed comparison over two successive images of the number of occurrences of the majority vectors is the same as the comparison of each motion vector with the best vector of Zhu. The Examiner equates the claimed step of defining the stability of the fields as Step S570 of Zhu (Figure 8) and asserts that the decision is based on a stability parameter from the comparison step S330 (Figure 6) which shows comparing the number of occurrences as the majority voting process with a "THRESHOLD" value (answer, page 3).

Appellants argue that Figure 5 of Zhu relates to a motion vector field of one image and is not the same as the claimed comparing the number of occurrences of majority vectors within two successive images (brief, page 4). Appellants further contrast the motion vectors in Figure 5 of Zhu as having a single best motion orientation per region R (col. 4, lines 51-60) which is

used for comparison with each motion vector of the region (id.).

Appellants further assert that Zhu, in fact, compares each motion vector in a region with the best matching vector so that the motion vector may be adjusted accordingly (brief, page 4).

In response to Appellants' arguments, the Examiner relies on Figure 5 of Zhu and argues that element 225 counts the number of the majority vectors (col. 5, lines 9-55) through a majority voting process, which is shown as arrows or dots, in case they are ignored (answer, page 5). The Examiner further argues that, similar to Appellants' specification (page 9, lines 20-21), the stability parameter is a binary setting of 1 or 0 which is set as 0 or V_{best} on the basis of the comparison (id.).

Initially, we note that a rejection for anticipation under section 102 requires that the four corners of a single prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.

See Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). However, rejections based on § 102 must rest on a factual basis wherein the burden of proof is placed "on the Patent Office which requires it to produce the

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factual basis for its rejection of an application under sections 102 and 103." In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See In re Warner, 379 F.2d at 1017, 154 USPQ at 178 (CCPA 1967).

After a review of Zhu, we disagree with the Examiner that the process depicted in Figures 6-8 results in defining a stable field based on the variation in the number of occurrences being within a predefined bracket and based on a comparison of the number of occurrences over two successive images. Zhu in col. 4, lines 32-37 states:

Majority Voter 225 scans through all the motion vectors in the region R to pick the motion vector that is the most representative in the region R. This process is described in detail below. Such a motion vector is referred to as the best matching vector V_{best} .

Additionally, Zhu describes that this best matching vector is obtained by taking the average of all the orientation angles and the average of the magnitudes of all the motion vectors in region R which, in turn, is compared with all the other vectors V_i (col. 5, lines 10-18). Therefore, although some comparison of the number of occurrences of the majority vector for obtaining

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the best matching vector over two successive blocks or regions R is performed, it is done after the decision step S530 (Figure 8) wherein the absolute difference between the motion vector and the vector profile is compared with a threshold (col. 6, lines 22-32).

There is nothing in Zhu to indicate that any stability decision is made based on whether the variation in the number of occurrences lies within a predefined bracket after the number of occurrences is compared. The closest Zhu comes to this comparison is by the majority voting process which takes place after a comparison with the threshold value determines the best matching vector (Figure 6; col. 5, lines 37-55). Therefore, we agree with Appellants (brief, page 5) that the absence of the specific order of claimed process steps in the reference indicates that Zhu is not concerned with transmitting a stability parameter by determining the variation in the number of occurrences after those numbers over two successive images are compared.

We note that independent claim 11 also requires means for performing similar steps which are absent in Zhu. As the references cannot anticipate any of independent claims 1 and 11, we do not sustain the 35 U.S.C. § 102 rejection of claims 1 and 11, as well as claims 2, 3, 8, 9 and 12-14 dependent thereon over Zhu.

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With respect to the rejection of the remaining claims, we note that the Examiner relies on Avis for additional features claimed in the other dependent claims. However, the Examiner has not pointed to any convincing rationale in modifying Avis in order to overcome the deficiencies of Zhu as discussed above. Accordingly, we do not sustain the 35 U.S.C. § 103 rejection of claims 4-7 and 10 over Zhu and Avis.

CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claims 1-3, 8, 9 and 11-14 under 35 U.S.C. § 102 and rejecting claims 4-7 and 10 under 35 U.S.C. § 103 is reversed.

REVERSED

JERRY SMITH)
Administrative Patent Judge)
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) BOARD OF PATENT
HOWARD B. BLANKENSHIP) APPEALS
Administrative Patent Judge) AND
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