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EXAMINER

GEROLEO, FRANCIS

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Please find below and/or attached an Office communication concerning this application or proceeding.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AARON M. BURRY, RAJA BALA, and ZHIGANG FAN

Appeal 2015-007209
Application 13/210,447
Technology Center 2400

Before ROBERT E. NAPPI, ST. JOHN COURTENAY III, and
ALEX S. YAP, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is a decision on appeal under 35 U.S.C. § 134(a) of the Examiner's Final Rejection of claims 1, 4 through 12, and 15 through 23, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

INVENTION

This invention is directed to a method to facilitate analyzing of a video stream from a camera mounted on the side of a school bus to determine license plate information of cars that illegally pass the school bus.
See Abstract.

CLAIMED SUBJECT MATTER

Claim 1 is representative of the invention and reproduced below.

1. A computer-implemented method for identifying moving vehicles that illegally pass a school bus during a bus stop, comprising:
 - receiving a video sequence from a camera device mounted on a school bus;
 - partitioning the video sequence into video segments such that each video segment corresponds to a single bus stop and comprises one or more video frames captured during the bus stop;
 - analyzing the frames within each video segment to detect a moving vehicle in one or more of the frames;
 - identifying and tagging frames in which a moving vehicle is detected;
 - identifying and tagging video segments that comprise tagged frames;
 - for each detected moving vehicle, locating a license plate on the moving vehicle;
 - identifying license plate information comprising the alphanumeric characters on the license plate and the state of origin of the license plate; and
 - appending metadata, which describes the license plate information, to at least one of the tagged segment and the tagged frame in which the license plate information is identified to generate a violation package.

REFERENCES AND REJECTIONS AT ISSUE

The Examiner has rejected claims 1, 4 through 7, 10, 12 and 15 through 18, 21 and 23 under 35 U.S.C. § 103(a) as unpatentable over Schmidt (US 5,570,127; Oct. 29, 1996), Rigney et al. (US 6,985,172 B1; Jan. 10, 2006) (“Rigney”) and Higgins (US 7,986,339 B2; July 26, 2011). Ans. 2–6.¹

The Examiner has rejected claims 8 and 19 under 35 U.S.C. § 103(a) as unpatentable over Schmidt, Rigney, Higgins and Huang (US 2006/0210175). Ans. 7.

The Examiner has rejected claims 9 and 20 under 35 U.S.C. § 103(a) as unpatentable over Schmidt, Rigney, Higgins and Appellants Admitted Prior Art. Ans. 7–8.

The Examiner has rejected claims 11 and 12 under 35 U.S.C. § 103(a) as unpatentable over Schmidt, Rigney, Higgins and Jain et al. (US 2004/0239817 A1; Dec. 2, 2004) (“Jain”). Ans. 8–9.

ISSUES

Independent claims 1, 12, and 23

Appellants’ arguments directed to claims 1 and 11 on pages 7 of the Appeal Brief and page 3 of the Reply Brief, directed to the Examiner’s rejection claim 1 present us with the issue: did the Examiner err in finding the combination Schmidt, Rigney, Higgins of teaches appending metadata

¹ Throughout this Decision, we refer to the Appeal Brief dated March 9, 2015; the Reply Brief dated July 27, 2015; and the Examiner’s Answer mailed May 26, 2015.

that describes the license plate to the tagged segment of video segments as recited in representative claim 1?

Appellants' arguments directed to independent claims 12 and 23, on pages 11, 12, 14, and 15 of the Appeal Brief, present the same issue as discussed with claim 1.

Dependent Claims 5, 6, 16, and 17

Appellants present separate arguments directed to claims 5 and 16, on pages 8 and 10, 12, and 13 of the Appeal Brief. These arguments present us with the following dispositive issue: did the Examiner err in finding the combination Schmidt, Rigney, and Higgins of teaches calculating a sum total error for pixels in each subsequent frame and comparing the sum for each frame to a threshold as recited in claims 5 and 16?

Dependent claim 8 and 19

Appellants present separate arguments directed to claims 8 and 19, on pages 15 through 17 of the Appeal Brief. These arguments present us with the following dispositive issue: did the Examiner err in finding the combination Schmidt, Rigney, Higgins, and Huang of teaches calculating the frame-to-frame pixel intensity differences using the equation recited in claims 8 and 19?

ANALYSIS

We have reviewed Appellants' arguments in the Appeal Brief and the Reply Brief, the Examiner's rejections, and the Examiner's response to Appellants' arguments. Appellants' arguments have persuaded us of error in

the Examiner's rejection of claims 5, 6, 8, 16, 17, and 19. However, we are not persuaded of error in the rejection of claims 1, 4, 7, 9 through 12 and 15, 19, and 20 through 23.

Claim 1

Appellants' arguments directed to the first issue assert that Figure 5 of Higgins, shows presenting actual license plate information on a display that also shows the image of the vehicle and not that the license plate information is appended as metadata as claimed. App Br. 7. We disagree with Appellants as the Examiner has cited more than Figure 5 to support the finding that Higgins teaches appending metadata (data about data). Specifically, the Examiner also cites to Higgins, Col. 25, ll. 51–61, as teaching appending metadata. Ans. 10. We concur, with the Examiner, as Higgins teaches imprinting textual information including the license plate details (metadata, as it is data which describes the data license plate of vehicle in the image) onto the photographic data. Accordingly, we are not persuaded of error in the Examiner's rejection and we sustain the Examiner's rejection of independent claims 1, 12, and 23. Appellants have not presented separate arguments directed to dependent claims 4, 7, 9 through 11 and 15, 19, 20, and 21 accordingly we similarly sustain the Examiner's rejection of these claims.

Dependent Claims 5, 6, 16, and 17

Appellants' arguments directed to the second issue assert that Rigney teaches generating a temporal difference image and computing a threshold for each pixel based on variation and not calculating a total error for pixels

in each subsequent frame. App. Br. 9. The Examiner in response cites to Rigney, Figures 4 and 6, and the disclosure describing these figures to support the finding that Rigney teaches the claimed calculating a sum total error and comparing the sum total error to a threshold. Answer 11–14. We have reviewed the teachings of Rigney cited by the Examiner and concur with the Appellants. Rigney teaches examining the frame to frame differences based upon each pixel and not “a sum total error for pixels in each subsequent frame,” as claimed. (Claim 5). Accordingly, we do not sustain the Examiner’s rejection of claims 5, 6, 16, and 17.

Dependent claim 8 and 19

Appellants’ arguments directed to the third issue assert that Huang teaches detecting changes in motion compensation component of a compressed video signal to determine whether motion is above a threshold and not calculating the frame-to-frame pixel intensity differences using the equation recited in claims 8 and 19. Answer 16. The Examiner in response to Appellants’ arguments cites to Huang paragraph 20 as teaching using the claimed equation. We disagree with the Examiner, we do not see that paragraph 20 of Huang discusses calculating pixel intensity differences based upon the absolute value of difference between subsequent frames. Thus, Appellants have persuaded us of error in the Examiner’s rejection of claims 8 and 19.

DECISION

We sustain the Examiner’s rejections of claims 1, 4, 7, 9 through 12 and 15, 19, and 20 through 23 under 35 U.S.C. § 103(a).

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Application 13/210,447

We do not sustain the Examiner's rejections of claims 5, 6, 8, 16, 17, and 19 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