UNITED STATES PATENT AND TRADEMARK OFFICE

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BakerHostetler / Comcast
1735 Market Street
Suite 3300
Philadelphia, PA 19103-7501

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SHIBRU, HELEN

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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 EHSAN YOUNESSIAN and RENXIANG LI

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Appeal 2025-000834
Application 17/231,864
Technology Center 2400

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Before JENNIFER L. McKEOWN, NABEEL U. KHAN, and
MICHAEL J. ENGLE, *Administrative Patent Judges.*

KHAN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the
Examiner's decision to reject claims 1–7 and 21–41.[2] *See* Final Act. 1. We
have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] "Appellant" refers to "applicant" as defined in 37 C.F.R. § 1.42. Appellant
identifies the real party in interest as Comcast Cable Communications, LLC.
Appeal Br. 1.

[2] We note that claims 8–20 are canceled. Appeal Br. 15 (Claims App.).

CLAIMED SUBJECT MATTER

The subject matter relates to techniques for analyzing content. Spec.
¶ 2. The Specification describes the invention as follows:

> A content stream (e.g., video stream) may be generated based on
> source content (e.g., a video file). Imaging analysis may be used
> to detect scenes, scene boundaries, and/or scene durations of the
> content stream. Scenes identified in the content stream may be
> compared with scenes associated with the source content.
> Transformation and other variations in content quality may result
> in scene detection in the video stream that is inconsistent with
> the scenes associated with the source file. A matching process
> may be used that includes modifying scene boundaries
> associated with the source content. Multiple scenes may be
> merged as a single scene, and the merged scene may be compared
> with detected scenes of the video stream. The matching process
> may be iterative to allow for multiple rounds of scene
> modification and comparison. Results of the matching process
> may be used to generate analytics, send notifications, cause
> actions to be performed, or a combination thereof.

Id.

Claim 1, reproduced below, illustrates the claimed subject matter:

> 1. A method comprising:
> comparing first scene boundaries associated with a video
> stream and second scene boundaries associated with a source
> video used to generate the video stream;
> determining, based on the comparing, a mismatch
> between the first scene boundaries and the second scene
> boundaries;
> determining, based on the determining the mismatch and
> by removing one or more of the second scene boundaries,
> modified second scene boundaries;
> determining, based on comparing the first scene
> boundaries and the modified second scene boundaries, a match
> or a mismatch; and

processing, based on the match or the mismatch, the
video stream.

REFERENCES

The Examiner relies on the following references to reject the claims:

Name	Reference	Date
Catalano	US 10,789,990 B2	Sept. 29, 2020
Zhao	US 2019/0294887 A1	Sept. 26, 2019

REJECTIONS

1. Claims 1–6, 21–26, 28–33, and 35–40 stand rejected under 35 U.S.C. § 102(a)(1) as anticipated by Zhao. Final Act. 5–7.

2. Claims 7, 27, 34, and 41 stand rejected under 35 U.S.C. § 103 as unpatentable over Zhao and Catalano. Final Act. 8–9.

OPINION

REJECTION UNDER 35 U.S.C. § 102

Independent Claims 1, 21, 28, and 35

Claim 1 recites "comparing first scene boundaries associated with a video stream and second scene boundaries associated with a source video used to generate the video stream." Appeal Br. 14 (Claims App.). Claims 21, 28, and 35 each recite commensurate limitations. *Id.* at 15, 17, 18.

The Examiner finds Zhao teaches the aforementioned limitation. Final Act. 5 (citing Zhao ¶¶ 36, 45, 51–53, FIG. 3). Zhao describes receiving image/video output from a special electronic device such as digital camera, video camera and/or network camera and acquiring a current video frame from the received video (i.e., the input video). Zhao ¶¶ 36, 45, 51, FIG. 3 (S310). Zhao also describes acquiring a scene model, which is

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obtained based on the current video frame and the previous video frame of the current video frame. *Id.* ¶¶ 45, 52, FIG. 3 (S320). Zhao further describes determining whether a visual element model in the scene model is the "matched visual element model" or the "unmatched visual element model" based on the difference between the appearance feature of the visual element model and appearance feature of visual element in the video frame corresponding to the visual element model. *Id.* ¶ 53, FIG. 3 (S330). For example, Zhou looks to the similarity between the texture feature/color feature/illumination feature of the visual element model and the texture feature/color feature/illumination feature of visual element corresponding to the visual element model. *Id.* ¶ 53. According to Zhao, if the determined similarity is equal to or greater than a predefined threshold value, the visual element model is determined as the "matched visual element model," and if not, the visual element model is determined as the "unmatched visual element model." *Id.*

Appellant argues that "Zhao is completely unrelated to comparing any kind of data associated with a video stream and data associated with a source video used to generate the video stream." Appeal Br. 4. Appellant argues that "[i]ndeed, there is never a discussion in Zhao of both a video stream and a source video used to generate the video stream on the same device that does the foreground processing." *Id.* at 5. Appellant argues that in Zhao, "[t]here is only the simple input of a single video, and that video is processed (without generating a new video stream) to detect foreground." *Id.* at 6.

We are persuaded of Examiner error by Appellant's arguments. "A claim is anticipated only if each and every element as set forth in the claim is

found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Claim 1 recites "comparing first scene boundaries associated with a *video stream* and second scene boundaries associated with a *source video* used to generate the video stream," but we do not discern from the relied upon portions of Zhao that Zhao discloses comparing both the video stream and source video used to generate the video stream. Appeal Br. 14 (Claim App.) (emphasis added). As Appellant points out, the "t-th video frame" described in Zhao "is not a 'video stream' at all, but a single frame." Appeal Br. 7. The Examiner's rejection does not provide sufficient evidence or reasoning why Zhao's description of acquiring a current video frame from the received input video and a scene model obtained based on the current video frame and the previous video frame discloses the claimed video stream generated by a source video.

Accordingly, we do not agree that Zhao anticipates claim 1 and we do not sustain the Examiner's rejection of claim 1 under 35 U.S.C. § 102(a)(1). We also do not sustain the rejection of independent claims 21, 28, and 35, which recite similar limitations and were rejected under the same basis. *See* Final Act. 7. Finally, we do not sustain the rejection of claims 2–6, 22–26, 29–33, and 36–40 because they depend from one of claims 1, 21, 28, or 35.

REJECTION UNDER 35 U.S.C. § 103

Claims 7, 27, 34, and 41

Claim 7 depends from claim 1 and further recites "comparing the first scene boundaries of the video stream and the second scene boundaries associated with the source video used to generate the video stream comprises comparing scene start times and scene durations of the second scene

boundaries with scene start times and scene durations of the first scene boundaries." Appeal Br. 15 (Claims App.). Claim 27 depending from claim 21, claim 34 depending from claim 28, and claim 41 depending from claim 35 each recite commensurate limitations. *Id.* at 17, 18, 20.

The Examiner rejected claims 7, 27, 34, and 41 under 35 U.S.C. § 103 as unpatentable over Zhao and Catalano. Final Act. 8–9. The Examiner does not rely on Catalano to remedy the deficiencies in Zhao with respect to the independent claims discussed above. Accordingly, we do not sustain the Examiner's obviousness rejection of claims 7, 27, 34, and 41 for the same reasons given for the independent claims from which they depend.

CONCLUSION

The Examiner's rejections are REVERSED.

DECISION SUMMARY

The following table summarizes our decision:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1–6, 21–26, 28–33, 35–40	102	Zhao		1–6, 21–26, 28–33, 35–40
7, 27, 34, 41	103	Zhao, Catalano		7, 27, 34, 41
Overall Outcome				1–7, 21–41

REVERSED