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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CORVILLE O. ALLEN, ALBERT A. CHUNG, and
RAVI K. MUTHUKRISHNAN

Appeal 2019-000661
Application 15/255,008¹
Technology Center 2600

Before BRADLEY W. BAUMEISTER, JON M. JURGOVAN, and
MICHAEL M. BARRY, *Administrative Patent Judges*.

JURGOVAN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant seeks review under 35 U.S.C. § 134(a) from a final rejection of claims 1–5, 7–9, 11, 12, and 15–20, constituting all of the rejected claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.²

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. According to Appellant, the real party in interest is International Business Machines Corporation. Appeal Br. 4.

² Our Decision refers to the Specification (“Spec.”) filed September 1, 2016, the Final Office Action (“Final Act.”) mailed April 23, 2018, the Appeal Brief filed July 26, 2018 (“Appeal Br.”), the Examiner’s Answer (“Ans.”) mailed October 25, 2018, and the Reply Brief (“Reply Br.”) filed

CLAIMED INVENTION

The claims are directed to analyzing a visual image asset to determine a human gesture and the context for that gesture. Spec. Abstract, ¶¶ 17, 18. For example, a person's holding up two fingers could be interpreted as the number two, the letter V, or a peace sign, depending on the context.

Id. ¶ 19. The true meaning of a gesture is determined by using context to filter possible meanings. *Id.* ¶¶ 18, 34. A computing device executes an operation whose function depends on the determined contextual gesture. *Id.* ¶ 43.

Claims 1, 8, and 16 are independent, and claims 2–5, 7, 9, 11, 12, 15, and 17–20 are dependent. Claim 1, reproduced below, is representative of the claimed invention:

1. A computer program product for determination of a contextual meaning of human gestures, the computer program product comprising a computer readable storage medium having program instructions embodied therewith, the program instructions executable by a processor to cause the processor to:
 - receive a visual image asset comprising a plurality of pixels that collectively depict a content of the visual image asset;
 - analyze the plurality of pixels according to a first digital image analysis protocol to determine at least one indicia of a context associated with the content of the visual image asset;
 - analyze the plurality of pixels according to a second digital image analysis protocol to determine a gesture indicated by the content of the visual image asset;
 - perform a semantic mapping to determine the contextual meaning of the gesture based on the at least one indicia of the context and the determined gesture; and
 - execute an audiovisual output_operation responsive to determining the contextual meaning of the gesture, wherein at least one function of the operation is dependent upon the

October 31, 2018.

contextual meaning of the gesture and modified from a prior state based on the contextual meaning of the gesture.

Appeal Br. 24 (Claims Appendix).

REJECTIONS³

(1) Claims 1–4 and 16–20 stand rejected under 35 U.S.C. § 102(a)(1) based on Reville (US 8,457,353 B2, June 4, 2013). Final Act. 6–9.

(2) Claim 5 stands rejected under 35 U.S.C. § 103 based on Reville and Immonen (US 8,896,529 B2, Nov. 25, 2014). Final Act. 10.

(3) Claim 7 stands rejected under 35 U.S.C. § 103 based on Reville and Hessler (US 2017/0006009 A1, Jan. 5, 2017). Final Act. 10.

(4) Claims 8, 9, 11, and 12 stand rejected under 35 U.S.C. § 103 based on Reville and Liebermann (US 8,523,572 B2, Sept. 3, 2013). Final Act. 11–13.

(5) Claim 15 stands rejected under 35 U.S.C. § 103 based on Reville, Liebermann, and Hessler. Final Act. 13.

ANALYSIS

§ 102 Rejections

“Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.” *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983); *see also*

³ In the Answer, the Examiner indicates claims 13 and 14 are objected to as dependent from a rejected base claim, but allowable if rewritten in independent form. Ans. 19–20. Thus, the rejections of claims 13 and 14 are moot.

In re Gleave, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *In re Buszard*, 504 F.3d 1364, 1366 (Fed. Cir. 2007); *In re Paulsen*, 30 F.3d 1475, 1478–79 (Fed. Cir. 1994). Anticipation is a factual issue. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

Claim 1

Claim 1 recites the following limitations:

receive a visual image asset comprising a plurality of pixels that collectively depict a content of the visual image asset;
analyze the plurality of pixels according to a first digital image analysis protocol to determine at least one indicia of a context associated with the content of the visual image asset;
analyze the plurality of pixels according to a second digital image analysis protocol to determine a gesture indicated by the content of the visual image asset;

Appeal Br. 24 (Claims Appendix).

The Examiner finds that Reville’s Figure 4, Step 516, discloses claim 1’s context analysis feature. Final Act. 6–7. The corresponding description states the following:

At step 516 a user interface context is determined and applied. The UI context may be an environmental context referring to the different environments presented by computing environment 12. For example, there may be a different context among different environments of a single application running on computing device 12.

Reville 14:26–31. Reville provides the example that, in a video game application, a first context may be when a user operates a vehicle, and a second context may be when the user is on foot. Reville 14:31–42. Gestures are interpreted differently depending on whether the vehicle context or foot context applies. *Id.*

Appellant argues that any context determined by Reville “is a context of the user-interface viewed by a user, not a context of the gesture depicted in the captured image of the user.” Appeal Br. 11 (emphasis omitted). We agree with Appellant’s argument because the cited parts of Reville do not disclose context determination from a visual image asset, as claimed. Consequently, on this record, we are constrained not to sustain the Examiner’s rejection of claim 1.

Claims 2–4

Claims 2–4 depend from claim 1. We do not sustain the anticipation rejection of claims 2–4 for the same reason stated with respect to claim 1.

Claim 16

Claim 16 recites the following:

16. A system, comprising a processor configured to:
 - receive an indication of an occurrence of a human gesture;
 - execute one or more instructions to perform an analysis of the indication of the occurrence of the human gesture to determine contextual criteria having a relationship to the occurrence of the human gesture;
 - determine a meaning of the human gesture based at least in part on the contextual criteria and a plurality of possible intended meanings for the human gesture; and
 - execute an audiovisual output_instruction responsive to determining the meaning of the human gesture, wherein at least a portion of the instruction is dependent upon the meaning of the human gesture and is modified from a prior state based on the contextual meaning of the gesture.

Appeal Br. 28–29 (Claims Appendix).

Appellant argues for patentability of claim 16 on the same basis as claim 1, contending that Reville fails to disclose determining context from a visual image asset, or determining gesture and context from the same visual image asset. Appeal Br. 9–16. Claim 16, however, does not recite any

visual image asset. Ans. 11. Arguments must be commensurate in scope with the actual claim language. *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982). Thus, we find Appellant’s arguments unpersuasive to show Examiner error for claim 16.

Claim 17

Claim 17 depends from claim 16. Claim 17 recites as follows:

17. The system of claim 16, wherein the indication of the occurrence of the human gesture is a visual image asset, and wherein the contextual criteria is determined based on surroundings of the human gesture in the visual image asset.

Appellant argues Reville fails to disclose the features of claim 17.

Appeal Br. 16–17. We agree with Appellant’s argument that Reville does not disclose “wherein the contextual criteria is determined based on surroundings of the human gesture in the visual image asset.” *Id.* at 17. The cited parts of Reville do not disclose determining a gesture’s context from a visual image asset. Accordingly, we do not sustain the rejection of claim 17.

Claim 18

Claim 18 depends from claim 16. Claim 18 recites as follows:

18. The system of claim 16, wherein the plurality of possible intended meanings for the human gesture are filtered according to the contextual criteria to determine the meaning of the human gesture.

Appeal Br. 29 (Claims Appendix). Appellant argues Reville fails to disclose the features of claim 18. Appeal Br. 17–19. We agree with Appellant.

Reville states:

A gesture recognition engine **190** may compare the data captured by the cameras **36, 38** and device **20** in the form of the skeletal model and movements associated with it to the gesture filters in the gesture library **192** to identify when a user (as represented by the skeletal model) has performed one or more gestures.

Reville 7:66–8:11, *cited in* Ans. 6. Thus, the cited portion of Reville uses gesture filters to identify when a user has performed a gesture. This is not the same as filtering possible intended meanings for a human gesture to determine the meaning of the human gesture, as claimed. Accordingly, we do not sustain the rejection of claim 18.

Claims 19 and 20

Claims 19 and 20 depend from claim 16. Appellant presents no separate arguments for these claims. Accordingly, these claims fall for the reasons stated for claim 16.

§ 103 Rejections

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) where present, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Claims 5 and 7

Claims 5 and 7 depend from claim 1 and include all of its limitations. The Examiner relies on Immonen to teach or suggest the feature of claim 5, and on Hessler to teach or suggest the feature of claim 7. Final Act. 10. As the Examiner has not shown that Immonen and Hessler overcomes the

deficiencies of Reville noted with respect to the rejection of claim 1, we do not sustain the rejections of claims 5 and 7.

Claim 8

Claim 8 recites the following:

8. A computer-implemented method, comprising:
 - receiving a digital media asset comprising a plurality of pixels;
 - performing a first image analysis of the digital media asset at a pixel-based level to determine a gesture embodied within the digital media asset according to a first relationship among the plurality of pixels of the digital media asset;
 - performing a second image analysis of the digital media asset at the pixel-based level to determine a context of the gesture according to a second relationship among the plurality of pixels of the digital media asset; and
 - determining a cultural meaning of the gesture based on the determined gesture and the context of the gesture.

Appeal Br. 26 (Claims Appendix). The Examiner rejects claim 8 over the combination of Reville and Liebermann. Final Act. 11. Appellant argues claim 8 on the same basis as claim 1, contending that the combination of Reville and Liebermann fails to teach or suggest determining context from the digital media asset, as claimed. Appeal Br. 19–20. The Examiner has not shown that Liebermann discloses the deficiencies of Reville noted regarding claim 1. Accordingly, we do not sustain the rejection of claim 8.

Claims 9, 11, 12, and 15

Claims 9, 11, 12, and 15 depend, directly or indirectly, from claim 8 and thus include all of its limitations. By virtue of their dependency from claim 8, we do not sustain the rejections of claims 9, 11, 12, and 15.

CONCLUSION

The Examiner's rejections of claims 16, 19, and 20 under 35 U.S.C. § 103 are affirmed.

The rejections of claims 1–5, 7–9, 11, 12, 15, 17, and 18 under 35 U.S.C. § 103 are reversed.

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–4, 16–20	102(a)(1)	Reville	16, 19, 20	1–4, 17, 18
5	103	Reville, Immonen		5
7	103	Reville, Hessler		7
8, 9, 11, 12	103	Reville, Liebermann		8, 9, 11, 12
15	103	Reville, Liebermann, Hessler		15
Overall Outcome			16, 19, 20	1–5, 7–9, 11, 12, 15, 17, 18

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