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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RAYMOND C. KURZWEIL

Appeal 2011-000510
Application 10/734,618
Technology Center 3600

Before EDWARD A. BROWN, ANNETTE R. REIMERS, and
WILLIAM A. CAPP, *Administrative Patent Judges*.

BROWN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1-26. App. Br. 2. We have jurisdiction over this appeal under 35 U.S.C. § 6(b). An oral hearing was conducted on January 11, 2013.

We affirm-in-part and enter a new ground of rejection pursuant to our authority under 37 C.F.R. § 41.50(b).

THE CLAIMED SUBJECT MATTER

Claims 1 and 15 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the appealed subject matter:

1. A virtual reality encounter system comprising,
 - a mannequin;
 - a camera coupled to the mannequin, the camera capturing an image of a first, physical location in which the mannequin is disposed, and producing a first video image signal from the first captured image;
 - a processor that receives the first video image signal and morphs the first video image signal;
 - an adapter to send the morphed, first video image signal to a communications network and sounds in connection with a theme of the morphed, first video image signal and to receive a second, video image signal from the communications network, the second video image signal of a second, different physical location; and
 - a set of goggles to render the second video image of the second, different physical location on a pair of displays that are integrated with the set of goggles.

THE REJECTIONS

Appellant requests review of the following rejections:

1. The rejection of claims 1-10, 13-21, and 24-26 under 35 U.S.C. § 103(a) as unpatentable over Abbasi (US 6,786,863 B2; iss. Sep. 7, 2004), Yee (US 6,016,385; iss. Jan. 18, 2000), Biocca (US Pat. App. Pub. No.: 2002/0080094 A1; pub. Jun. 27, 2002), and Saylor (US 7,466,827 B2; iss. Dec. 16, 2008); and
2. The rejection of claims 11, 12, 22, and 23 under 35 U.S.C. § 103(a) over Abbasi, Yee, Biocca, and Simmons (US Pat. App. Pub. No.: 2003/0030397 A1; pub. Feb. 13, 2003).

ANALYSIS

Rejection of claims 1-10, 13-21, and 24-26

Claims 1, 9, 13, 15, 20, 21, 24, and 25

Appellant states that claims 1, 9, 13, 15, 20, 21, 24, and 25 stand or fall together (App. Br. 7) and presents specific arguments for only claim 1 (App. Br. 7-12). We select claim 1 as representative of the grouping, with claims 9, 13, 15, 20, 21, 24, and 25 standing or falling with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2011).

Claim 1 recites a virtual reality encounter system comprising "an adapter to send the morphed, first video image signal to a communications network *and sounds in connection with a theme of the morphed, first video image signal.*" Emphasis added. The Examiner found that Saylor teaches providing audio communications for a simulation system over a computer network, with the sounds being in connection with a theme of a virtual reality system displayed to a user. Ans. 6-7 (citing Saylor, col. 3, ll. 39-47, col. 3, l. 63-col. 4, l. 3). The Examiner concluded that it would have been

obvious to combine Saylor's teachings with those of Abbasi, Yee, and Biocca, "because Saylor teaches further means of achieving realism for a simulated environment, as the other references, by processing the audio signals to sound like the actual sound depending on the conditions/themes chosen by the user." Ans. 7 (Saylor, col. 1, ll. 22-28).

We have considered each of Appellant's contentions set forth in their Briefs. Appellant contends that Saylor does not teach sending sounds in connection with a theme of a morphed, first video image signal, but rather Saylor "processes radio communications used in a flight simulation system to introduce impairment effects for aural realism." App. Br. 8. Appellant also contends that Saylor merely modifies the audio reproduction of transmitted sounds, and "Saylor's audio replication can best be described as sounds in connection with a characteristic of an audio communication signal." *Id.* at 9. These contentions are not persuasive.

The Examiner did not rely on Saylor for teaching the morphing of an image, but rather found Biocca teaches the morphing of a video signal. Ans. 6, 23. The Examiner applied Saylor for teaching sending sounds in connection with a theme of a video image signal, and stated that Saylor "suggests sending sounds in connection with the simulation being displayed and felt (visual and tactile signals) by modifying the real-time voice communications and adding background noises to simulation to improve the simulation experience." *Id.* at 23.

Appellant also contends that Saylor does not describe or render obvious "sounds **in connection with the video image being displayed.**" Reply Br. 3. The Examiner found that Saylor teaches a "simulation system wherein interrelated audio, visual (imaging), and tactile simulations are sent

to the simulation user" (Ans. 22 (citing Saylor, col. 4, ll. 59-61)), and also discloses providing sounds in connection with the simulated visual image and simulated environment, such as an aircraft cockpit (Ans. 23(citing Saylor, col. 1, ll. 19-21; *see also*, Saylor, col. 4, ll. 39-45)). Appellant has not provided any persuasive argument why these interrelated audio signals (sounds) are not "in connection with" a displayed video image.

Appellant also contends that the Examiner's stated support for why one of ordinary skill in the art would have made the modification to the references to include sounds in connection with a theme of the morphed, first video image signal is inadequate. App. Br. 10. Appellant individually addresses each of the Examiner's applied references and contends that the references disclose different categories of subject matter and different areas of technology. *Id.* at 10-11. Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Appellant does not apprise us of any specific error in the Examiner's findings and conclusions in regard to the combined teachings of Abbasi, Yee, and Biocca. As discussed *supra*, Appellant also has not provided any persuasive argument as to why the Examiner's findings and conclusions with respect to Saylor as applied in the combination are erroneous.

In view of the above, we sustain the rejection of claims 1, 9, 13, 15, 20, 21, 24, and 25.

Claims 2 and 16

Appellant states that claims 2 and 16 stand or fall together (App. Br. 12) and presents specific arguments only for claim 2 (App. Br. 12-13). We

select claim 2 as representative of the grouping, with claim 16 standing or falling with claim 2.

Claim 2 recites that "the processor overlays a virtual environment over one or more portions of the video image *to form a virtual scene.*" Emphasis added. The Examiner found Biocca teaches a processor that overlays a virtual environment over one or more portions of a video image to form a virtual scene. Ans. 7. Appellant contends that "Biocca merely describes a video-based image of non-virtual, remote participants in a room with non-virtual, physical objects as well as virtual objects." App. Br. 13.

In response, the Examiner stated (Ans. 28):

Biocca teaches specifically "an augmented reality [virtual] display ... [that] has the capability to display virtual objects and environments, superimpose virtual objects on the 'real world' scenes" ([0009]). Under the broadest reasonable interpretation of "a virtual environment" the described step of superimposing virtual objects on the user's real world view (figures 12B-D) creates an augmented reality, or virtual, scene.

Appellant also contends that Biocca describes superimposing virtual objects on real world scenes, but not "virtual scenes." Reply Br. 5.

Appellant contends that a real-world scene is not equivalent to a virtual scene, as claimed, and that a virtual scene represents something other than the real-world environment of the user taught by Biocca. *Id.* at 5-6. These contentions are not persuasive.

Appellant does not identify any error in the Examiner's finding that Biocca teaches overlying virtual objects over a video image. Claim 2 calls for the overlaying of the virtual environment over the video image to form a virtual scene. The Examiner determined that Biocca's superimposing of

virtual objects on a real world scene "form[s] a virtual scene," as claimed. Appellant does not direct us to any definition of the term "virtual scene" in the Specification, or to any disclosure therein that precludes the Examiner's determination that the scene formed in Biocca by superimposing virtual objects on a video image (real world scene) meets the limitation "virtual scene." In view of the record before us, we sustain the rejection of claims 2 and 16.

Claims 3-8, 10, 14, and 17-19

Claim 3 recites that the system further includes "a body suit having tactile actuators, the tactile actuators receiving second tactile signals from the communications network." The Examiner found that Abbasi discloses "a body suit (hand interface 90, figure 3) having tactile actuators." Ans. 8. The Examiner stated that "[b]ased on the broadest reasonable interpretation of the term 'body suit' Abbasi reads on the claim language by describing a hand interface 90 . . . [that] comprises 'tactile actuators . . . tactile actuators apply surface pressure to the fingers in the glove'" Ans. 28 (citing Abbasi, col. 5, ll. 27-39).

Appellant contends that Abbasi does not describe a body suit, or using a body suit with tactile actuators receiving tactile signals from the communications network. App. Br. 14; *see also* Reply Br. 6. Appellant contends that the Examiner's interpretation of the term "body suit" is unreasonable. Reply Br. 6-7. We agree.

The Specification includes disclosure supporting Appellant's contentions. Particularly, Figure 8B shows a glove 104 having tactile actuators 106 worn on a user's hand. *See also* Spec. 7, ll. 12-14. Regarding Figure 9B, the Specification states that "in other embodiments, sensors are

placed over various parts of a robot. Corresponding actuators can be sewn in the interior of a body suit that is worn by a user." *See* Spec. 7, ll. 19-22. Figure 9B shows that the body suit substantially covers the user 22b's body. As such, Appellant's Specification provides disclosure that distinguishes between a "glove" and a "body suit." An ordinary meaning of "bodysuit" is "a close fitting one-piece garment for the torso." MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 138 (11th ed. 2003). The "body suit" shown in Figure 8B appears to be close-fitting and covers the user's torso, as well as the user's arms and legs. We agree with Appellant that the Examiner has not given the term "body suit" a reasonable construction. We do not sustain the rejection of claim 3, and claims 4-8, 10, and 14 depending therefrom.

Claim 17 depends ultimately from claim 15 and recites "receiving second tactile signals from the communications network at *a body suit* in the first location, *the body suit having tactile actuators* responsive to the second tactile signals." Emphasis added. The Examiner's findings and conclusion for claim 17 (Ans. 7, 8, 28) are similar to those for claim 3, as discussed *supra*. As such, we do not sustain the rejection of claim 17, and claims 18 and 19, which depend therefrom.

Claim 26

Claim 26 depends from claim 1 and recites that "the goggles receive a morphed second video image from the processor."¹ The Examiner found that "Biocca teaches receiving a morphed second video image from a processor." Ans. 20. The Examiner determined that "it would have been

¹ Appellant's Specification states that FIG. 1 shows "a set of goggles 20a worn by a user 22a." *See* Spec. 3, ll. 10-14. We note, however, that FIG. 1 shows a mannequin 12a wearing goggles 20a, but does not show user 22a wearing goggles 20a.

obvious to one of ordinary skill in the art to duplicate the morphing process for a second image following a first image or an image discontinuous to the first." *Id.*

Appellant acknowledges that Biocca "describes morphing a stereo image for use by a remote user," but contends that the Examiner "has not said anything about the goggles, the processor, or the relationship between them with regard to the cited portions of Biocca." Reply Br. 9. These contentions are not persuasive.

The Examiner found that Biocca teaches receiving a morphed second video image from a processor. The Examiner did not rely on Biocca for teachings regarding the claimed goggles, but found that Yee teaches a set of goggles to display the second video image of the second, different physical on an integrated pair of displays. Ans. 5. Appellant has not apprised us of any error in these findings, or addressed the Examiner's combination of teachings. We sustain the rejection of claim 26.

Rejection of claims 11, 12, 22, and 23²

Claims 11 and 12 depend from claim 3. The Examiner's application of Simmons for the rejection of claims 11 and 12 (Ans. 21) does not cure the deficiencies of the rejection of claim 3, as discussed *supra*. We do not sustain the rejection of claims 11 and 12.

² Appellant contends that the rejection of claims 11, 12, 22, and 23 is improper for failing to also include Saylor. App. Br. 17 (*see* Final Rej. 7, listing claims 11, 12, 22, and 23 as rejected over Abbasi in view of Yee, Biocca, and Simmons). The Examiner explained in the Answer that the omission of Saylor was an unintentional typographical error (Ans. 2, 30), and included Saylor in the stated ground of rejection (Ans. 21). Appellant does not mention this rejection in the Reply Brief.

Appellant relies on the dependency of claims 22 and 23 from claim 15 for patentability. App. Br. 17. As we find no deficiency in the Examiner's rejection of claim 15, we also sustain the rejection of claims 22 and 23.

New ground of rejection of claims 2-8, 10-12, 14, and 16-25 under 35 U.S.C. § 112, second paragraph

Claim 1 recites "an image," "a first video image signal," and "the second video image." It is unclear whether the "video image" recited in claim 2 references the "image," "first video image," or "second video image" in claim 1. For this reason, we find that claim 2 is indefinite. Claim 15 similarly recites "a first video image" and "a second video image." Claim 16 depends from claim 15 and recites "the video image." It is also unclear whether "the video image" recited in claim 16 references the "first video image" or "second video image" in claim 15. Accordingly, we find that claim 16 is also indefinite.

Therefore, we enter a new ground of rejection of claims 2 and 16, and also claims 3-8, 10-12, 14, and 17-25, which depend from claim 2 or claim 16, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

DECISION

The Examiner's rejection of claims 1, 2, 9, 13, 15, 16, and 20-26 is **AFFIRMED**, and of claims 3-8, 10-12, 14, and 17-19 is **REVERSED**.

This decision contains a New Ground of Rejection of claims 2-8, 10-12, 14, and 16-25 pursuant to 37 C.F.R. § 41.50(b), which provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final

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for judicial review." 37 C.F.R. § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options *with respect to the new ground of rejection* to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner....

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record....

Should Appellant elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejections, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejections are overcome.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART; 37 C.F.R. § 41.50(b)

Vsh